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VOL. XIII. NO. 20.

OCTOBER 15, 1885.

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IN

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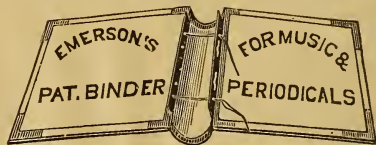
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Box 691, Sherburne, Chen. Co., N. Y.

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CITY MARKETS.

CINCINNATI.—*Honey.*—There is no material change in the market for honey. Demand is slow for manufacturing purposes, while there is a fair trade in comb and extracted honey for table use. Arrivals are fair. Extracted honey brings 4@8c on arrival, according to quality. Choice comb honey, 14@16c in the jobbing way. *Beeswax.*—Home demand for beeswax is fair, which brings 20@22c for choice yellow, on arrival. CHAS. F. MUTH, Cincinnati, Ohio.

St. Louis.—*Honey.*—Not much change since our last report. Extracted honey, Southern, in bbls., 4@4½. Northern, in kegs, 7@8c. In 2-gallon cans, 8½@9c. Comb honey in good demand (white clover), and wanted at 17@18c. A fancy lot would bring a little more. Dark honey, hard to sell. *Beeswax.*—Fair demand, 24@25c.

Oct. 10, 1885. W. T. ANDERSON & Co.,
St. Louis, Mo.

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Beeswax. 24@25 c. Producers intending to market their comb honey should get it ready and send forward during the mild weather, as it bears transportation much better than when it is freezing weather.

Oct. 10, 1885. R. A. BURNETT,
161 So. Water St., Chicago, Ill.

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Beeswax. 22@25. A. C. KENDEL,
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Oct. 10, 1885. A. V. BISHOP,
142 W. Water St., Milwaukee, Wis.

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M. ISBELL, Norwich, N. Y.

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50 COLONIES OF BEES in Langstroth and Simplicity hives—hybrids in good shape for winter; \$3.50 per colony on the cars, or \$3.25 as they stand. 23-21d GEO. W. SIMMONS, Newark, Del.

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Hybrid queens, 50 cts. each; black queens, 25 cts. each; from Aug. 1st to Oct. 1st, safe arrival guaranteed. G. K. RAUDENBUSH, Reading, Berks Co., Pa.

To those in need of queens, I offer about 50 fine young and prolific hybrid queens at 40 cents each, safe arrival guaranteed.

T. F. KLOER, Terre Haute, Vigo Co., Ind.

I have now three hybrid queens for sale at 40 cts. each. Guarantee safe arrival.

J. H. JOHNSON, Middaghs, Northamp. Co., Pa.

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15 DOLL, wax, all dressed for a party.	2 25 20 00

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Plymouth Rocks. Fine, pure-bred Cockerels of this popular breed at \$1.00 each, if taken before Nov. 15. Satisfaction guaranteed. Ref. Ed. Gleanings. Address 19-20d YODER & METZLER, E. Lewistown, Mahoning Co., O.

WANTED. A SITUATION with some bee-keeper. I have had one season's experience. Address **L. C. DUNLAP, NASHUA, IOWA,** 20qd



Vol. XIII.

OCT. 15, 1885.

No. 20.

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OUR OWN APIARY.

HOW TO DESTROY WEEDS AT THE ENTRANCE, BY
THE APPLICATION OF SALT.

ANY apiarist who is at all neat and tidy about his apiary, knows what an eyesore it is to have weeds and grasses growing at the entrance of his hives, and that, too, during the height of the honey-flow, when time is precious. To take a long knife or other implement, and cut away or pull up the weeds, is not only expensive but exceedingly disagreeable. Well do I remember when it was my allotted task as a juvenile apiarist (?) to hoe away those "pesky weeds," and how those bees, "peskier" still, would contrive, despite my frantic efforts, to plant a sting above my shoe-top, or, worse, remind me of their presence up my trousers leg. I was young and inexperienced, and had a kind of mortal terror of the bee. To tell the truth, I am not particularly fond of meddling with the entrance of hives now. One vacation, just prior to returning to school, I placed a little salt at the entrance of two or three hives, by way of experiment; but as I soon returned to school I never knew how it resulted. Our apiarist, however, during this year and the preceding, has made it a complete success, and at a very insignificant cost. About ten days ago it took him about an hour to sprinkle salt at the entrance of 220 hives. When common barn salt is worth \$1.25 per bbl., the whole expense per entrance, annually, including time, is less than a quarter of a cent. Two days after the application of the salt you might see the weeds killed, root and all, at every entrance. Even the hardy dandelion shared the common fate. The

action of the salt works best, and is almost immediate, after a rain. Where our entrances were, a day or so ago, a little obstructed, they are now perfectly clean and I fancy the bees appreciate the change too. Now is a good time, when work in the apiary is not pressing, to kill off the weeds; and during almost the whole of the next season you will find little trouble from the weeds at the entrance. It seems to me a good deal of importance needs to be attached to this. It is expensive business, and not a little loss of the much-sought honey-crop, to have the little fellows wasting their time by bumping their heads against the weeds, and then to crawl over what is to them mountains of obstructions.

BEES FLYING OUT ON CHILLY DAYS.

Oct. 7.—It has been cold and rainy for the last two days. Yesterday, while the sun was out for a short time, a good number of bees filled the air. The sun soon disappeared, and the atmosphere became chilly as before. Then you might have seen little clumps of bees huddling together on the hive-covers and in the grass, too much chilled to return home. There must have been two or three pounds of bees at least that were lost by the sudden change of temperature. A short warm spell on a wet chilly day seems not very profitable to the apiarist.

MORE ABOUT THOSE CARNIOLANS.

This morning, Oct. 9, was cool and frosty, and I accordingly concluded it would be a good time to test more thoroughly the disposition of that Carniolan swarm. Proceeding thence without any smoker we opened the hive, but the few remaining Italians stuck up their "tails" as usual in a threatening attitude. The Carniolans acted quite differ-

ently, and seemed to be entirely unaware of our presence—in fact, like Italians on a warm day. We pointed our fingers at their “noses,” in a manner calculated to aggravate most bees. The new bees could not be induced to fly up; but the few Italians seemed inclined to resent, and darted with dire intent at the finger-point. Our apiarist then shook a frame of the bees before the entrance of the hive. They fall off quite readily, but I think not as easily as the black bees. I then shook a frame with similar results. A more extended trial next season will prove this matter more definitely. If all Carniolans are like ours in this respect it will afford another at least partial means of distinction between them and the blacks.

Now, by way of caution I would suggest that we bee-keepers be a little careful about investing in these bees too largely at first. If one or more swarms prove valuable for you during the coming years you can then invest. But, remember that the Italians have already stood a most severe test for years.

A FRAME OF BROOD AND ONE-FOURTH POUND OF BEES.

Aug. 1st, our apiarist took a quarter of a pound of bees, a queen, and a frame of brood, to see what he could do with them. Up to date (Oct. 10), without any outside assistance, it is a good strong swarm, and a very little feeding will put them in fine condition for winter. Our readers will see what can be done with weak swarms, even though rather late in the season to build up.

PUTTING THE BEES INTO WINTER QUARTERS.

Our apiary is now reduced from 330 colonies to 200 by doubling up. We shall not have to feed a pound of sugar syrup this year for the reason that, during the honey-flow, we left about a dozen of our strongest colonies to gather honey. Our object was to secure nice straight combs of sealed honey. Every colony now has from five to six of these combs in the apiary. Where such combs were not entirely finished they were filled out by placing partially filled combs in the upper story, as I told you in the last issue. You will remember, that last year our bees had almost entirely sugar-syrup stores. If our bees should die very largely during the coming winter, we might attribute the loss to the honey. However, I do not think we need to be alarmed, as the honey is well cured, and is, I fancy, what Bro. Heddon would call “well-ripened honey.”

ERNEST R. ROOT.

MORE FACTS ABOUT CARNIOLANS.

THEIR DISPOSITION AND COLOR.

AS usual, GLEANINGS came to hand promptly; and here let me say, this is the beauty of a bee-paper. This is one of the reasons I like GLEANINGS. I know just when to look for it. While scanning its contents I was much interested in Ernest's description of the Carniolan bees; and as he invites reports from others, I take the liberty of telling what little I know of them.

I find the Carniolans, when strictly pure, to all have that steel-blue color that has been spoken of, and that they resemble the blacks but very little more than the Italians do. The white-gray rings Ernest speaks of are very prominent, and will show themselves at once when crossed with other races. In form, it is true, they resemble the Italians; but I feel sure that Ernest will change his

mind in regard to their disposition when he handles them more; for I find no need of smoke at all in handling them. They remain on the combs quiet, although they can be shaken off as easily as any other race of bees I have ever seen, and, as has been said, at once cut for the hive, instead of taking wing. It is true, that when you are handling them they seem to take no notice of even robbers that may be flying around the comb; but let a robber attempt to alight at the entrance, and he is handled as roughly as he well could be. I find the Carniolans to be equal to the Cyprians for protecting their hives, and as good workers as I have ever seen, as far as I have tested them.

One other peculiar point is to be credited to the Carniolans, which is, they gather no propolis at all. All cracks are filled with wax instead of propolis; consequently the frames are free from that sticky substance gathered so largely by other bees; and then, the sections are so much nicer to handle. Besides, their combs are as white as the driven snow. As far as beauty is concerned, that depends altogether on different people's notions of color. What suits me best is, the bees that will give me the largest amount of nicest-looking comb honey with the fewest stings.

Now, I have not fully tested the honey matter to my entire satisfaction, but I have the matter of stings, and am fully satisfied that they are less inclined to sting than any other race of bees I have ever seen. When I have had another season's experience with them I will report further. I hope others will give their experience with these bees.

JAMES B. MASON.

Mechanic Falls, Me., Oct. 5, 1885.

Here is Ernest's reply to the above:

Why, bless your heart, Bro. M., I am of the same opinion still. Did you not misinterpret me in regard to the disposition of the bees, on page 658? If you will look again, you will see that I say, “As has been said, the Carniolans seem very gentle.” Also notice what is said of them in this issue in the department of Our Own Apiary. We are glad of the additional facts in regard to propolis.

HONEY LATE IN THE SEASON.

A GOOD REPORT FROM MRS. HARRISON.

LAST week I prepared some feed for our bees, *a la* Heddon, and on arranging a hive for the purpose I had occasion to lift the front of it, when I discovered it to be very weighty. The long-continued rain of the preceding week had promoted abundant bloom, followed by warm balmy weather, and honey was coming in at a rate unequalled this season, and lasted seven days. There has been no frost in this locality, but the nights are now cool.

In a letter dated Sept. 18, Mrs. Axtell, of Mercer Co., Ill., says “We are having a wonderful honey-flow just now. Before that, our bees had been living on the honey gathered two months before, not getting enough to live on from day to day. We began to think we should have to feed largely to winter on; but we are very thankful not to have to feed, as it is a big trouble, we think. Our hives are getting so full of honey now we may have swarms any day; not much surplus, however.”

Yesterday I transferred and united some small

after-swarms for a lady friend, that had been put into nail-kegs. The comb was almost all full of brood. These casts were too small to winter; and as she had a large black colony the queen from it was removed, and one from the small colonies substituted, as it was a good Italian. I never handled bees before at this time of the year, when they were so docile.

Goldenrod and asters are rather late blooming, but very abundant. MRS. L. HARRISON.

Peoria, Ill.

THE REASON WHY THE COMBS MELTED DOWN.

A LITTLE STORY WITH A MORAL TO IT.

EDITOR GLEANINGS:—Yesterday, after I had put the grape-butter to cook, and the tomato preserves to stew; had poured water on the lye-hopper, and put a tub under it to catch the drips; had superintended the digging of the holes for the posts that my wire clothes-line (price 35 cts. for 100 feet, sold by A. I. Root, Medina, Ohio) will be nailed to; after I had set Jessie to shelling the Lima beans, and Minnie to making Dutch pies; had told Mr. Chaddock to use the spool of wire (annealed and shellacked so that it will not soil the fingers, sold by A. I. Root, Medina, Ohio, for 10 cts.), to hang up his seed-corn on, instead of poles; when I had given the brass kettle to a little boy whose mamma wanted to make apple-butter in it; had put Sarah to blacking the kitchen stove (using "Dixon's best" bought of A. I. Root, Medina, Ohio, for 5 cts. a package); had hung Harry's hat on the new "hat-rack" (folding, all black-walnut, price 5 cts., bought of A. I. Root, Medina, Ohio); had tied up his finger, cut with his new "boy's knife" (sold by A. I. Root, for 5 cts.), and had cut him a slice of bread with my new bread-knife (bought of A. I. Root, Medina, Ohio, for 10 cts.), and spread it with butter to dry his tears; in fact, when I had oiled the whole household machinery, and set it to running smoothly, so that no one need call "Mamma, mamma," for five minutes, I thought I would begin to get my bees ready for winter. The first hive I went to was a dry-goods box fixed to hold Gallup frames, that I had put one of those 1-pound packages of German brown bees in. The box is as long as two Gallup hives; and as there were only six frames of brood in it I thought they would be cool enough without any top box on; and as none of the top boxes fitted, I did not put any on. Well, what do you think? Four of the six frames of comb had melted down and were lying in a crumpled mass in the bottom of the hive, and the bees had built new comb in the frames, about half way down.

Then I remembered that last week in July, when it was so hot that people forsook their beds and wandered around in the yards at night, seeking coolness and finding it not. I knew that those bees had come out and stayed out for days; but as all the other bees were out taking the air at the same time, I thought it was all right. When I saw the flux they were in, my heart rose up in my throat; for I thought if these few bees in this long box have melted combs, how will it be with those colonies that are running over with bees? I examined them and found them all right—not a single comb down; they all had two honey-boxes on; most of them had one full and one empty. Top stories

make a shade; spread-out dry-goods boxes do not. See how wise I am, after the thing is done!

MAHALA B. CHADDOCK.

Vermont, Ill., Oct. 3, 1885.

Why, my good friend, I supposed everybody knew that it would not answer at all to let the sun shine right on top of a hive when the bees in the combs were close up against said top. In the Simplicity hive we have a shallow chamber under the cover, and then have the cover painted white so it will not absorb the heat; but even with this arrangement the hive sometimes gets very hot during extremely warm weather. An upper story is better, as you say; and the chaff hive, with its permanent upper story and chaff-packed walls, is still better for hot weather, as well as for cold weather.—We are very much obliged indeed for your kind mention of the way in which our household conveniences help things along in the economy of your family duties. It seems to me, that, when that boy cut his finger, a piece of court-plaster from our three-cent counter would have been the quickest way to have fixed him up.

PREPARING FOR WINTER.

THE WAY FRIEND HEDDON ADVISES.

IN reply to inquiries sent by yourself and others, I will endeavor to briefly outline my ideas regarding wintering bees in eight-frame L. hives, or my own style of hive, as that is what is called for. I must say, that for those residing north of latitude 38 or 39, I consider indoor wintering best, safety and inexpensiveness considered. South of this I think I should prefer to have my colonies packed, and left on their summer stands. I am aware, that during our most moderate winters, that line should be moved northward; but I think it is wise for us to prepare for the worst, in every case. When so prepared we enjoy a feeling of safety that is a great comfort. I feel confident that I can winter any or every colony of my bees, with certainty, every time. The knowledge I lack, and so much desire, is to know if all of my precautions are necessary.

HOW TO PREPARE FOR CERTAINTY.

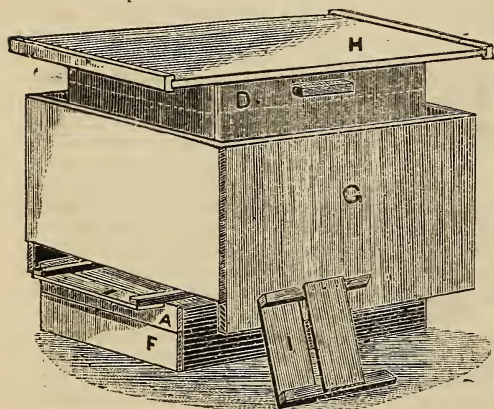
About the last of Sept. to the 15th of Oct. (according to latitude and season), remove all combs from your bees, and replace others free from all honey and bee-bread. Feed the bees properly with prepared sugar syrup till the combs are well supplied (I give them five combs, filling the space of the other three with two fillers, or dummy frames). Now, if you will place such a prepared colony in a repository where the temperature will never go below 45° nor above 50° F., it will be less liable to die in winter than will your cow or horse. You need take no notice of the humidity of the repository (a cellar preferred), nor of the ventilation, if your cellar is large in proportion to the number of colonies you place therein. Give no upper ventilation to the hives, but plenty at the bottom. Your bees will soon enter that quiescent state in which, according to Langstroth and Cook, they require but just the least bit of air.

The above is what I feel quite positive of. I think, that where that temperature is kept, that, should your combs contain bee-bread, it will do no harm, as it will not be touched. It is also true, that most

of the time our hives contain honey of such character that, after the bees have subsisted upon it for five or six months in that temperature, they will come out in spring in very unsatisfactory condition. However, I think that this is not always the case in all localities; but I think, as a rule, that if we so work our colonies during summer and autumn, that at the close of the harvest the hives contain but little natural stores, and then feed syrup on top of that, then if we carefully maintain the specified temperature, we are quite certain of success. I believe this, and shall give it careful and comprehensive tests during the coming winter. I hope to adopt that system in the future.

When we adopt the outdoor-packing system, we take more or less chances regarding temperature. I have practiced the following plan of protection, and it answers well during our open or moderate winters; but during the one just past it proved to be inadequate for this latitude.

First prepare your hives and combs to suit you; then adjust one of our cases or supers on the hive (with cloth between), and filled with any good non-conducting material, with the hive-cover on the case or super.



HEDDON'S ARRANGEMENT FOR OUTDOOR WINTERING.

By referring to the above cut I will now describe our simple and cheap method of packing. A shows the end of the permanent bottom-board of the hive; F, the stand the hive sits on; D, the case as filled, as above described; H, our summer shade-board; I, the winter bridge, composed of four pieces, 1 piece $11\frac{1}{2}$ inches long (the inside width of the hive), by $3 \times \frac{3}{4}$, and the others $11\frac{1}{2} \times 4 \times \frac{3}{4}$, and the side-pieces each $\frac{1}{2} \times \frac{3}{4} \times 9$. Now let us proceed to push this bridge into its position, the points into the entrance, the piece marked I, outside for an alighting-board, and the other piece, forming the bridge, to keep the packing out of the bees' passage-way. G is a rim made out of rough lumber, being 6, 8, or 10 inches larger, inside measure, than the hive is outside measure, thus giving 3, 4, or 5 inches of space on all sides, to fill with packing, sawdust preferred by me, and sawdust fresh from green logs does well, and soon dries out. You will see by the engraving that the sides and back end are wider than the front, and they may be enough wider to come down to the ground, or no further than shown in the engraving, as may be preferred. The hive being ten inches deep, the front end of our rim is represented as being about 12 inches, and the sides and back pieces

about sixteen inches wide; any old "cull" lumber will do for this rim. When we use them as shown in the engraving, we fill in the dust till it banks up, on the ground, and thus stops running down, and soon fills up. We press it snugly, and fill up to the top of the rim, and the dotted line shown about two-thirds of the way up the case, this line being about two inches higher than the top of the rim. In a windy situation I would advise having the rim made wide enough to come to the ground at sides and back end; here we do not need it, as we have but little wind within our eight-foot board fence, and sawdust is plentiful. Straw, chaff, or leaves, or almost any thing, can be used to pack with. Now adjust the shade-board H, as shown in the engraving, to keep the snow and rain from the packing. This board is 2×3 feet, and any moisture that drives into the top of the sawdust will dry out before it gets one inch deep; no dampness will arise two inches above the ground. I place a 15-lb. stone on the board to hold it in position.

Now, if this rim came down to the ground, and were high enough to come up to the shade-board H, and no upper case or packing were used, the hive-cover resting tightly on the hive, allowing no upward ventilation or absorption, you would have your colonies protected in the same manner as were Drs. Southard's and Ranney's 125 colonies at Kalamazoo, Mich., during the past winter, and their success was perfect. I am becoming of the opinion, that our upper absorbents are usually useless, and oftentimes worse.

The two experienced honey-producers just referred to believe this and work accordingly, and their success testifies in favor of their claims. There is much more that might well be said, but this article is long enough. I might simply add, that I can not tolerate heavy cumbersome hives for summer.

Dowagiac, Mich., Oct. 5, 1885. JAMES HEDDON.

Friend H., I feel pretty sure that bees will winter all right, prepared as you direct above, but I should be a little backward about being *so very positive*, as you seem to be. I do not know that there is any thing in the arrangement that I should object to, except the untidiness of such outside shells, made of rough cull boards. The ventilation you secure by making the case G not up to the top, is, I believe, an excellent idea, and your large shade-board H is also a good thing, without doubt; the same with your 15-lb. stone, only I am afraid I could not tolerate the looks of the thing, as I have said before. If there is any thing I do dislike to see in passing somebody's home, it is barrels sitting around the yard, with ashes or something else in them, a great awkward board on the top, and then a big stone to keep the wind from blowing it off. May be it is one of my notions, but it always makes me homesick, and I want to look t'other way, to find some pleasanter subject for contemplation. I like to see substantial, permanent structures, and then have them painted. No doubt it is only a notion of mine, but still I do like a chaff hive just on that account. But I suppose these same chaff hives are just what your concluding sentence is drifting at. One thing more, and I close: If I am correct, you would do your feeding between October 1st and 15th. It seems to me that I should prefer to do it a

little earlier, although we had excellent success in feeding even later than the last date mentioned. In our locality, 30 miles south of Cleveland, I prefer to take the chances of outdoor wintering.

NOTES ON GLEANINGS FOR OCT. 1ST.

HONEY FROM MAPLE.

OUR friend Doolittle always writes of something interesting to the practical bee-keeper, and usually we all feel like saying amen to his wise conclusions; but his conclusions as to the bee-products of our maples will not answer for all localities. I have known in one or two cases, when the weather was very favorable, when the bees secured a large amount of nectar from these grand old trees. I remember once of saying to our good friend Benton, that I believed that, were our colonies strong, and were not our spring days so capricious, our maples would be among our best honey-plants. It is very common that bees can gather pollen when the weather forbids nectar secretion. Very likely some plants are more susceptible to cold than are others. I think this is true. I do not know how the maple ranks in the list. I only know that, here in Central Michigan, the maples do furnish an rich supplies of nectar, and that, too, of a very pleasant and beautiful kind.

RIPE HONEY.

Now, Mr. Editor, I am much interested in this matter of "ripe honey." May I send you some clover and basswood honey for comparison with that of our friend Heddon's? Ours was extracted when very thin; and if it is not equal to Mr. Heddon's, or any other, then I wish some of theirs at once. Again, we have over 200 students here, and about 300 in all in our college community. I have often extracted quite thin honey which I thought was peculiarly pleasant, and have supplied this entire community with it, and I have yet to hear the first murmur that it was unwholesome, or more likely to cause colic.

VARIATION IN THE TIME OF HATCHING BEES AND OTHER INSECTS.

Of course, we all delight to hear from our dear and revered friend Mr. Langstroth, I have often tried such experiments as he details, and often we can get drones in 24 days. Sometimes it takes 26 or 27. This is no surprise to an entomologist. We find this variation in time of development in all insects. Indeed, in our breeding insects we can vary it at pleasure, by withholding food or subjecting to cold. Eggs that will usually hatch in days may be kept for months or years by putting them in a cool place. In like manner, development in both the larva or pupa state may be retarded. From this we note that we can not give hard, fixed figures in such matters. Variation of temperature, variation in number of bees, variation of care by the bees in protecting brood from the cold, each or all may vary our figures. So the queen, the workers, and the drones, may be retarded hours or days. Still, Bevan's figures as to queen, workers, and drones, have all been verified by my own observations as correct, under the most favorable conditions.

I believe friend Hart is correct in what he says about yellow jessamine. I bargain to eat from it freely, if any one will send it to me.

We are all very sorry that Mrs. Harrison must ev-

er needs be "laid aside for repairs." Mr. Editor, if said lady is as good a bee-keeper as she is writer, she is argument enough as to the ability of ladies to become first-class apiarists.

GELSEMIUM HONEY.

I read Dr. Higbie's article on gelsemium honey with great pleasure and satisfaction. I indorse every word of it. It is not the plant, I ween, but the person, and the amount eaten. One year, in the early days of this college, the students, in felling trees to clear up a place for our farm operations, were so (un)fortunate as to cut a bee-tree. You know, Mr. Editor, our students all labor three hours daily at manual work; and as the college was located in a dense forest, of course the first work was to clear away the forests. This bee-tree was cut in the forenoon; and it goes without saying, that hearty, vigorous young men needed no urging to take their fill of the delicious nectar; and when is honey ever so good as under just such circumstances? In sooth, no one could ever explain where so much honey went to. But the sad sequel—few of those students went to class that afternoon. True, none died; but many thought they were going to. It was not poisonous honey; it was not bee-stings. It was the undue eating—*overeating*—of pure rich honey. The stomachs couldn't manage such a load, and cried out, and many of the possessors of those stomachs fairly shrieked with pain. I have no doubt but that the same explanation would account for the terrible sickness of those ancient soldiers, as well as for the soldiers spoken of by Dr. Higbie.

The last part of the doctor's article I do not believe to be correct. In fact, Mr. Editor, a little thought refutes it. "Wild bees" are only tame bees in the forest. They are no whit different except in their place. If they sting honey, all our bees do. But, do they? Again, honey-comb, if stung, would not pull out the stings. Thus I think any stings seen in such cases came from crushed bees. Every bee-keeper often takes honey from bees under precisely the same circumstances that honey is taken from bees in the forest, and it is not unwholesome I have seen and eaten much of such honey, and I have never seen any such phenomenon as that suggested by Dr. Higbie.

VALUE OF ALSIKE AS A HONEY-PLANT.

Mr. Editor, I believe our farmer-apiarists do not appreciate the value of alsike clover as a honey-plant. Last June we had much white clover, but no alsike about the college. Our bees were strong, but we got very little honey. I visited my brother one day and was much surprised at the great amount of honey he had taken. I said, "I don't see into this. Our bees are as strong as yours; the distance is only twenty-eight miles, and the conditions as to temperature and rains are very similar." He said, "Come with me," and we passed to a large field of alsike clover. It was fairly loud with bees. He said, "Here is the solution. The bees have been working like this for days." Hurrah for alsike!

A. J. Cook.

Agricultural College, Mich.

By all means, send us some of the honey, friend Cook, and we shall be quite willing to own up, if need be. My objection to unripened honey is not that it is unpalatable when first gathered, but that it gets bad after being kept. Perhaps if exposed to the air, so as to allow the surplus water to evap-

rate, this would not be the case. Our troubles have been, that it would sour when put into bottles immediately after extracting.—I agree with you in regard to alsike. It seems to me that here is a field for bee-men who are farmers; at least, so far as my experience goes, a field of alsike is a pretty safe investment.

THE PICTURE OF FRIEND HILTON'S APIARY IN OUR LAST ISSUE.

HE TELLS US MORE ABOUT IT.

GLEANINGS is here, and the cut of apiary is nice. You say my letter is altogether too short. I didn't know it would be published when I wrote it. Yes, the 8-square building in the center of apiary is my honey-house and extracting-room. The queer-looking arrangement in my hand is for taking down swarms, and is made of an oak half-bushel basket, with handle removed, and a pole fastened to the bottom. It is light and strong. The shop in the rear is where we put together and paint our hives; but the stuff is gotten out at the mill just under the hill, in the background of the picture. The 100 hives you speak of were ordered by W. D. French, then living at Columbus, Ohio, but later he ordered them sent to near Grand Rapids, where he now has a fine apiary and trout-pond. The lumber that made those hives was delivered at the mill for \$4.50 per 1000, and paid for in honey, although there is not a pine-tree in sight of our place. Those you see in the distance are hemlock.

Many thanks for kind words, and especially your closing remark.

UNCLE GEORGE & Co.

Fremont, Mich., Oct. 5, 1885.

HUMBUGS AND SWINDLES

PERTAINING TO BEE CULTURE.

THE BOHEMIAN-OATS SWINDLE, AGAIN.

ABOUT one year ago, I think, I saw in GLEANINGS a reference to an oat swindle that had been perpetrated on the farmers in your vicinity by the Bohemian hullless oat. Parties are now in this vicinity, securing many orders for them at \$10.00 per bushel. If there are any of this kind of oats for sale in your neighborhood, please inform me at what price they can be bought, or at what price you can ship me a bushel or two.

D. E. BEACH.

Mina, Chaut. Co., N. Y., Oct. 1, 1885.

Friend B., the oats can be purchased in any quantity for from 75 cts. to \$1.00 per bushel. Any reliable seedsman can furnish them, or they can be had in Cleveland and various places. Ferdinand Schumacher, of Akron, O., the largest manufacturer of oatmeal, perhaps, in the world, recently stated in the *Ohio Farmer* that he did not want them at any price. They are not suitable for making oatmeal, and are not desirable for any purpose. The swindle is one of the most shameful frauds that have ever cursed our rural population. No further proof is needed that it is a fraud, than to hear the

men who sell them say they don't care if the oats are sold at a dollar a bushel, or less, and then go right on selling them at \$10.00 per bushel, on the plan that has been so many times written up and explained.

Since the above was written, we have received the following from friend Kendel, of the Cleveland Seed-Store:

We have no Bohemian, or "hullless" oats in stock. They are unworthy of cultivation. Horses do not like them; for oatmeal they are of less value than common oats, and we have not heard of any point they excel, except in gulling credulous farmers. We sometimes have them offered, and think we could get them for about 50 cts. per bushel, but should want to be assured that they were intended for legitimate uses only, as in your case. If we have any offered soon, we will write you.

A. C. KENDEL, Seedsman.

Cleveland, Ohio, Oct. 6, 1885.

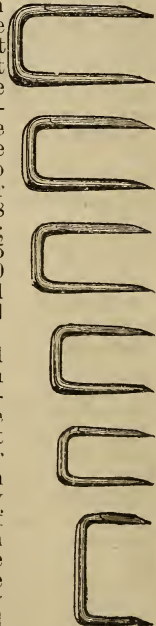
DOUBLE-POINTED TACKS MADE OF STEEL WIRE.

A VALUABLE ACQUISITION, USEFUL TO BEE-KEEPERS AND PEOPLE IN GENERAL.

OUR friends may remember that double-pointed tacks have been talked about some little time. We have succeeded in getting them at a pretty low rate by the pound, so they really do not

cost much more than common tacks by weight. Below we give you cuts of six different sizes and patterns, the cut showing the full size of the tack. Both larger and smaller sizes are made than those shown; but at present we have in stock only the two middle sizes. Price 5 cts. for a package of two ounces; 18 cts. for a half-pound package; 30 cts. for a full pound; \$2.75 for 10 lbs., or \$25.00 for 100 lbs. If wanted by mail, add 18 cts. per lb. for postage and packing.

These tacks are being used extensively for putting down carpets. The carpet can never get away, the head of the tack can not pull off, and at the same time they are easier to draw out than the common tacks. They are also very useful for many kinds of woodwork. The wood can not very well split, because the two points inclose a piece of wood; and although they are made of flattened steel wire, the temper is such that they can be clinched so as to be wonderfully strong and secure. The points are made by cutting the flattened wire at an angle, so as to leave a keen tapering steel point that will go straight into any thing, even zinc or tin. Very small sizes are quite useful for repairing baskets, and are much stronger than any ordinary tack.



SEEMINGLY ANOTHER PHASE OF THE DISEASE FOUL BROOD.

HOW TO CURE BY THE INTRODUCTION OF A NEW QUEEN.

I WROTE you over two years ago (see GLEANINGS, page 236, 1883), in regard to a brood disease that was prevailing in this vicinity; and as I have received inquiries lately in regard to whether I have found any remedy for it, I shall be pleased if you will allow me to reply in GLEANINGS, hoping thereby to benefit others as well as those who have inquired. The following is a copy of a card that I received a few days ago:

I noticed your article in May No. of GLEANINGS, 1883, on foul brood. I have found it in my apiary, the same kind that you speak of; others have it in this vicinity. Have you found any remedy? If so, you will much oblige by writing to me.

S. H. WETMORE.

Wellsboro, Tioga Co., Pa., Aug. 28, 1885.

Since the publication of the above-mentioned article I have given the matter a good deal of attention, and on some points of the trouble have arrived at the following conclusions:

1. That the disease is not contagious by contact, or by introduction of bees, honey, comb, brood, etc., from an affected colony into a healthy one.

2. That the infection is transmitted by the fertilization of the queen by a drone from a diseased hive. Although I am not positive the infection is conveyed in the manner mentioned, I have what I think very strong evidence in that direction. But allowing the foregoing to be correct, I am not yet able to say why so large a proportion should be affected. I now understand its management so well that it no longer has any terrors for me. I have cured every case that has occurred among my bees in the last two years. All that I have found necessary is to remove the diseased queen and introduce one that is healthy and fertile, with sufficient amount of fresh bees to clean up the premises. I have generally succeeded in the following way:

Remove the diseased queen, and allow the hive to stand eight days, then open and cut out all queen-cells started, and introduce a frame of honey, brood, and adhering bees, from a healthy colony from which to raise a queen. Cases managed in the ways mentioned have mostly banished every trace of the disease in about two months. It seems to be important to supply the diseased colony with a fresh force of workers to do the house-cleaning. In one case where I introduced a queen and the few attendant workers received by mail, it took nearly two years to overcome the trouble, and required considerable feeding to keep them from starving, till they got well. But they eventually got through all right.

Last season I thought the Italians were not subject to the trouble; but this summer I have found two colonies, apparently pure Italians, among my 75 that have received the "offensive taint."

I am glad that I am able to assure bee-keepers that there is no danger of spreading the infection by contact with the diseased matter, as I have frequently taken frames from diseased colonies and put them into healthy ones, without transmitting it. I have owned and kept bees continually for 38 years, and have used the Langstroth frame since 1858. As we have no basswood, and but little buckwheat or fall flowers, I have never been able to get very large yields of honey. Nearly all our surplus is from the white clover; and as it was nearly all

winter-killed we have got only about 1000 lbs. of dark stuff from the poplar and other timber-trees. I think it is about four years since I first noticed the disease among my bees, but I am pretty well satisfied now that they had it for more than twenty, as I never extracted, and seldom opened the hives, as they did not yield me much profit. I will add, that the disease doesn't seem as virulent among the Italians as among the common blacks. I think very likely it is mistaken by some for true foul brood. It seems to be a venereal disease of the honey-bee; but call it what we may, it has done immense injury to the bee-business over a large scope of country.

MILTON HEWITT.

Perryopolis, Pa.

Friend H., the information you furnish is quite important; and since you mention it, I am inclined to think the greater part of the diseases that affect bees can be cured or prevented by the introduction of a new queen, in the way you allude to; for introducing a new queen is virtually making the old colony a new colony. If we could cure a sick horse by putting another one in his place, without very much expense, what a wonderful thing it would be! and with bees we can do this with comparatively little or no loss. The nameless bee-disease that has been so much talked about, I am quite certain would yield to just such treatment. In fact, this plan must cure any disease, *not a contagious disease*, for it is virtually removing every thing but the combs and contents.

MRS. CHADDOCK ON THE SORGHUM BUSINESS.

HOW TO DISPOSE OF THE SYRUP AFTER YOU HAVE GOT IT.

NO, I do not mean that people must not carry on business, or neglect business in order that they shall not worry. I like to work, to buy and sell, to make bargains, and to live up to them. I am very sure that if I had been a man I should have been a merchant, or "a big cattle-man." I like the excitement of trade, the hurry and the bustle; but I am not going to worry. Every year we raise sorghum, Mr. Chaddock does not think it pays to raise sorghum; he says it is cheaper to buy it. I know that it *does* pay to raise it. So we children raise it, strip off the blades, cut off the tops, cut it down, load it into the wagon, drive to Aunt Jane's, and unload it there. We like to do it. Two of us go with the load, and two stay at home and cut up another load. Every year Aunt Jane told us we could either pay 25 cents a gallon for having it made up, or else give her half the molasses; and as we never have any money we always gave half. This year we did not make any bargain, supposing that we could have our choice as usual; and when we had half the crop hauled she told us that we would have to pay the money, she was not going to take any molasses this year.

As soon as the children told us, Mr. Chaddock said, "You will have to buy another barrel now;" and he said it in the tone that means, "I told you so."

Well, I went right down to see Aunt Jane, and she said, yes, she wanted the money, and she wanted it "right away." She advised me to go to town, buy an extra barrel, engage the molasses at some store,

etc., but I thought I knew a trick worth two of that. I came home, took the horses and buggy, and Mollyony, and I drove around on the prairie and engaged all the molasses we had to spare. We left home at one o'clock, and came back at four. The folks will bring their jars and kegs here, and we will take them to Aunt Jane's on a load of cane, on Monday. Aunt Jane will measure the molasses into their vessels, they will come and get their molasses, without my touching it at all; they will pay me, and I will pay Aunt Jane for making it. No worry at all, no bother, every thing fair and square, and everybody in a good humor. Here was a first-class chance to worry, but I lost not a wink of sleep, the matter being all straightened out before sleeping-time came.

Vermont, Ill.

MAHALA B. CHADDOCK.

Mrs. C., that is the idea exactly, and I am with you at every step of it; but the thing that would worry me or make me feel a little anxious would be in regard to the quality of the syrup. If it were only equal to the samples of some I have seen, everybody would be pleased and happy, even if they had to pay more for it than store syrup costs; but if it didn't happen to be real nice, what then? May be Aunt Jane has the knack of making good syrup every time, no matter whether the cane is just so or not. If she *has*, that is the place to trade. I like to sell things as well as you do, provided they are real nice; but if they are *not real nice*, I always wish I were in some other business; and if you once get the reputation of dealing in nice honest goods only, then you can always sell readily.

THE SUNDAY QUESTION, AGAIN.

MRS. JENNIE CULP GIVES US ALL A GOOD LESSON IN TRUST.

FRIEND ROOT:—In a foot-note to sister Chaddock's reply to Nellie, on the Sunday question, you not only appropriated my text, but answered the question to my satisfaction; but as you are not a sister, and it was "the sisters" she wanted to hear from, I feel impelled to be as good as my word.

I am sorry to disappoint the little folks with the rooster story, for it is a big folks' story; yet it will benefit them to read it, especially if it should lead them to ask and trust the dear Father for temporal as well as spiritual blessings as it did me.

Sister Nellie, in my estimation your friend gave you the right kind of advice—"Trust they will do as well without you." Only carry it a little further; talk to the Lord about it; tell him you want to be diligent in business, and succeed, and you also want to be his faithful, willing child; and if in earnest, I feel satisfied he will make your pathway clear. "Remember the Sabbath day to keep it holy."

Saturday evening I dismiss my bees from my mind, as I do the rest of my week's work; on the morrow I give them no anxious thought; if they swarm I hive them as I would take the "ox out of the ditch." We do not stay at home to see it fall in, neither should we stay home to see if the bees are going to swarm. If we are willing to suffer loss for Christ's sake, and his cause, I feel confident he is able and willing to hold our bees in check, if it is best, if

we ask and trust him. "Not a sparrow falls to the ground without *his* notice." "Even the hairs of your head are numbered." Our petitions are all heard if we come to the dear Father with childlike simplicity, in faith believing.

While husband was living I could not get the consent of my mind to like the bee business, on account of the anxious care he manifested, especially on Sunday. Hiring some one to stay at home on Sunday to watch the bees was as wrong to me as to stay at home ourselves, even if they were not in the habit of going to church. This was before queen-clipping came in fashion. After his death I could not get the consent of my mind to part with *one* of his bees, for, next to his wife and children, he loved them above every thing else. Before the swarming season commenced I was in company with some friends visiting, when one of the company laughingly threatened to tell a "rooster story" on sister H., a widow lady present, who was a dear friend of mine. When alone I asked her to tell me the joke they had on her about the rooster.

"Sister Culp, they may laugh all they please at me; it is no joke, but a grand reality. I go to my heavenly Father for temporal aid as well as spiritual blessings, and he gives it to me, for he knows I desire above all things to do his holy will, and many a time he has sent you over here in answer to prayer." And I could then recall to mind quite a number of times I had suddenly been impressed with the thought I ought to go and see Maggie. I would arrange and go, and she would invariably meet me at the door with a smile, and "I knew you would come." Now, her story is this:

"I had my little garden nicely made, and there was an old rooster that annoyed me very much. During the week I could watch him myself and keep him out. On Sunday, when time came to go to Sunday-school and church, I asked the Lord to keep him out while I attended. I then dismissed it from my mind, and went. After services, a friend invited me home to dinner with her. I studied a while to see if there was any thing in the way. Finding nothing, I said, 'Yes, I can go just as well as not.' We started and got part of the way there, when all at once my garden came in my mind. I stopped suddenly. 'No, I can't go.' 'Why?' 'I asked the Lord to keep the rooster out of the garden while I was at church, and the time is past up. I must go right home.'"

She arrived just in time; for while she had been losing, as she thought, unnecessary time in getting home, he had succeeded in getting in, but had done no damage. This little story, as related by the dear sister, set me to thinking as I had never thought before, and I concluded to go to the Lord for aid in temporal things, and not go, either, in an off-handed manner, as I felt I had been in the habit of doing. My bees give me no more anxious care on Sunday than do my cow and chickens; and if I have ever lost any thing by attending Sunday-school or church, I am not aware of it. I never allow them to keep me at home on Sunday.

Sister Chaddock says religion is a sentiment. With me it is a faith, a trust, a confidence, a *grand reality*—more to me than father and mother, husband and children, houses, land, bees, or any thing else you could enumerate. Shorn of it I should be of all persons most miserable. But with the conscious indwelling of the Holy Spirit in my heart I

have joy, peace, and rest, which the world can not give nor take away.

Thanks, sister C., for your kind sympathy. It is true, I am alone a great deal of the time. It is now near 10 p. m., and I have not seen a human being to-day, which is often the case, but I am not lonely. I miss the sweet companionship of husband, daughter, and mother, all of whom crossed over to the "ever green shore" within two and one-half years of time. But the assurance that they are safe and happy, free from care and sorrow, is a wonderful comfort to me. A few more days, if faithful, I shall join them, never to be separated.

I am glad you like me, for indeed I do appreciate it, and must say, in return, I like all the sisters, and have a kindred feeling for the brethren too. Strange, isn't it?

I see you are a little disposed, like the editor, to make fun of that maple-sugar feeding. He said I "fed it with a vengeance." I do not think he had any idea how much I fed—just guessed at it. I will tell you, and you can keep still about it. To begin with, my bees were not like Pharaoh's lean cattle; they did not need much *fattening*. I bought only 50 lbs. in cakes; had 28 colonies of bees, so you see it did not average 2 lbs. to the colony. Frost killed the fruit-bloom, so there was no honey, and that "maple sugar" carried them over to the white-clover flow, and there was enough taken off, when the surplus-boxes were put on, to furnish the three children all the maple sugar they wanted, all summer.

Hilliard, Ohio, Sept. 23, 1885.

JENNIE CULP.

GRADING HONEY FOR MARKET.

DOES IT PAY TO BE STRICTLY HONEST IN SELLING HONEY?

EVERY thing you say on that subject (page 602) is true. I do not doubt that corn story. As it pays to have a perfect article, it also pays to have the superior and inferior by themselves, with prices to suit. This leads me to tell how I market my honey successfully. Springfield, Ills., is my principal market. Methods of marketing there, and here near home, are different. There, customers expect to pay what is asked them, and they take fluctuation in prices as a matter of course. But here, if I sell at a certain price one year, I find it very hard to ever rise above it. For that reason I have endeavored to keep the home price at 15 cents in any quantity. In doing that I am perpetually accosted with, "Why, I got honey last year for 12½ cents." Some who always like a choice article pay me my price without a word; but, how shall I suit the other class? Thus: I always put choice grades on exposition in Springfield. Two of the best merchants there are now selling for me on commission. My honey generally exceeds, and is never excelled by any lots that ever go there. Consequently my honey always gets the highest price. If *mine* will not sell, none will. I have learned this by experience, and I know it is so. My honey is now bringing 18 to 20 cents retail, which is 3 to 5 cents higher than other section honey is selling. Both these men have refused honey that they could get on better terms, in order to handle mine. Col. W. is the choicest dealer in the city. His customers know that they often pay him higher prices than they would have to pay elsewhere; but they also know that they always get a first-class article

from him. Well, the colonel has, at times, turned off several lots of honey, hoping that I would come along. About a month ago, when I stepped into his store for the first time this year, a conversation followed, part of which is in substance as follows:

"Colonel, do you want to handle some honey?"

"Why, yes, if it is nice. What is the quality of the honey? as nice as in previous years?"

"Yes, sir; fully as nice."

"What do you want for it?"

"Oh! well, about 16 cents per pound."

"Why, you are a little high, aren't you? There was a man in here the other day, who said he would bring in a sample of section honey that he offers at 12½ cents."

"Well, I do not want to sell mine at that yet awhile."

"Well, I should like to handle some of your honey, but they are selling it all around here at 15 cts."

"Will you sell some for me on 10 per cent commission?"

"Yes."

"Then I will send in a case next Tuesday."

I sent in the case of honey, and he put the price at 20 cts. per lb. I do not know whether that man brought his sample of honey or not; but when I was in three weeks later, the colonel had not bought any of it.

There! do you see it? But, what about that cull honey? Why, when everybody objects to my regular home price, I tell them about said cull honey, and, "Come and look at it." If they are a little slow to do so, I take it to them and say, "Here is some honey as good as any; but you see it does not look as nice as the other; this box is crooked; that one is bulged; this one is not all sealed over; that one is pretty dark; it does not market very well. You may have it at 13 cents." I always sell that honey to some one. The quantity of this inferior article is surprisingly small. Yes, all you say about grading is true. But there is another thing comes in here, which I want to talk about, although I am making this letter longer than I intended. Will you please indulge me? It is this:

BE A MAN OF YOUR WORD—BE HONEST.

At our dinner-table not long ago the dealing of certain men came up in conversation. A farmer near here sold a lot of cattle, to be delivered on a certain day. He turned them on to a freshly blossoming clover-field the day before, in order to make them weigh heavy, and in violation of contract too. It would have been bad enough if no such stipulation had been made. He on other occasions had been guilty of like tricks. I immediately exclaimed just what I felt—I would not have men think such things of me for all the fortunes I could make by it. I am not alone in this matter. There is one man in Springfield I like to deal with largely on that account. Once when I was settling up with him he said, "That jar of extracted honey weighed 22 lbs."

"You are surely wrong, Mr. Wright. It weighed only 20 lbs. on my scale."

"Well," said he, "now since you mention it, when I sold it I weighed it with a dipper in. I remember now of taking it out afterward. I did not notice what I was doing at the time."

I could easily have made 25 cts. by remaining silent, and he would never have known that I knew he was wrong; but, bless your heart! I would. My conscience would not have let me forget it. That is not all; I think Mr. Wright knows he can trust me,

and Col. W. as well. I would regard a person correcting a mistake thus for me as a pretty reliable fellow. Now, when I offer a man my cull honey, I tell him I can not sell it at a first-class price—that this is why I offer it so low. I do not tell him that “my regular price is 15 cts., but I will let you have it for 13. Please do not say anything about it.” It would be just about the trick of a certain grocer in our town. He is one of the best business men in the village. He is as good a hand to attract custom and build up a trade as I ever saw, except in this feature. This, people can not but find out, and some men will not be lied to—not more than once or twice. Those who trade with him will not trust him, and they sometimes let him know it too. How could I endure such a reputation, even if nothing else were involved? To say nothing of its moral phase, such double dealing will injure, and often ruin one's business. It has ruined the business of one man I know, who once had the largest run of custom in the place. Suppose I sell A a good lot of honey at 15 cts. per lb., and B, an inferior one at 13 cts., but give him the impression that he is getting a favored bargain. For even second-rate honey, mine is called “so nice.” A happens to inquire of B how much he paid me, and B tells him. A comes to me with a complaint that I dealt unfairly, as he would have reason to do. I tell him the *true* reason I sold B that lot at reduced price; he carries it to B, and B in turn throws it up to me. How would I feel? Both would have just reason never to trust me again. Such transactions leak out, if practiced. No! it will not pay to deceive thus. I will tell the truth so plainly that men will know I am dealing squarely. I do not claim to stand pre-eminent and alone in the matter. I only want to show that it pays to be a man whose word is pure gold.

In your talk about grading products you struck a point whose importance can not, it seems to me, be overestimated, and one so true that I felt prompted to show by personal experience how true it is. This last subject seemed so nearly related that the former appeared incomplete without it. I intended to touch on some other matters, but, as usual, my letter has grown so long that I must stop right here.

GEO. F. ROBBINS.

Mechanicsburg, Ills., Sept. 23, 1885.

Friend R., your article is not a bit too long, while you teach such lessons as the one given above. I have often thought of these very things you mention; and while I think of it, I must confess that a man lowers himself in my estimation just as soon as he begins to tell me that he will let me have things so and so, if I won't say anything about it, and things of like nature. I have sometimes told such men that I did not want goods lower than other people paid; and they would look up at me in surprise, supposing, of course, that all men are little and small, and greedy for every copper they can get or save by hook or by crook. Of course, I am sometimes told that I can have prices so and so, because of the unusually large bills that I make. That is a different matter. The man who is tricky, succeeds eventually in tricking himself; and, worst of all, the poor fellow never finds it out until he has tricked himself out of business, and oftentimes out of a home.

PLANT-LOUSE NECTAR AND BARK-LOUSE NECTAR.

PROF. COOK TALKS TO US ABOUT CALLING THINGS BY THEIR RIGHT NAMES.

PROF. COOK:—I send you a sample of honey, or bug-juice, that the bees have been gathering at a fearful rate for the last fifteen days. Some swarms have gained 30 lbs. I never saw bees work faster. They drop on the alighting-board by the hundreds, heavy laden. The queens are laying as much as they would in June. They have brood in all stages, and plenty of it. Give them empty combs and they will fill it right up with bug-juice and brood.

It has been July weather all of this month, with the exception of a few days. We have had two frosts this month—one the 7th, and one the 22d. The bees are building new combs, and lengthening out cells as much as they would in June or July. I have taken off all sections, to keep them from putting this stuff in them.

Bees have not made much honey since the 10th of August, although we had a good yield from raspberry, clover, and basswood. They are now going it on this. I don't know what you would call it. They get it off blackberry, this year's growth. The top leaves are all curled up in a bunch, about the size of a man's fist, and there is a bug, or louse, on the leaves, very thick. The hind part of them is white. The bees are swarming over the briars as thick as they would over a field of buckwheat in full bloom.

I live near the old pineries that have grown up to blackberry and raspberry. There is one thing certain—we shall have plenty of young bees to go into winter quarters; but, how about the wintering part on this kind of stores? I should like to have your opinion on this. My opinion is, that it is going to be bad stuff to winter on. My bees had enough to winter on before they commenced on this. I fed a few swarms upon sugar syrup. I wintered last winter in cellar. Would it not be better to winter on summer stands packed? If it should be an open winter, so they could have a flight once in a while, they probably would go through all right.

Orona, Mich., Sept. 28, 1885.

L. REED.

The following is Prof. Cook's reply:

With the above letter came a half-pint bottle of nice-looking honey which, though not so light as clover honey, was considerably lighter than that from goldenrod or asters. I tasted of the honey thoroughly; and while I do not pronounce it by any means of first quality, I do think it is quite palatable. That I might have the judgment of others, wholly disinterested in the matter, and wholly unprejudiced by previous knowledge as to the source of the honey, I asked three members of the college faculty to sample it. All said, that, while they did not consider it equal to what I had usually given them, they thought it quite pleasant. As one gentleman said, “From fair to middling.” As any one familiar with entomology will see at once, this nectar is from plant-lice (family *Aphidae*), and not from scale-lice or bark-lice (family *Coccidae*).

Plant-lice are very common, there being few species of plants that do not harbor and nourish some species. Their presence is often denoted by the presence of ants passing up and down the plants in quest of this very nectar, which *they*, at least, pronounce pleasant and wholesome. These plant-lice are always active, are frequently seen to move about on the plants, and in almost all colonies some, usually but few, have wings. What a wise provision! The development of wings is ever at the cost of nourishing material, and so, unless needed, had better be absent. Thus they are wanting except in a few, which may fly away and so prepare to distribute and the better propagate the species. We bee-keepers wisely copy from such examples given us by nature; and so soon as our *queens* have done

with their wings—after mating is over—we cut them off. We see this is not against nature; and he who reasons that such queens are not just as acceptable to the bees, opposes both reason and experience.

These plant-lice are flask-shaped, and often ovoviviparous; that is, the eggs hatch within the parent, not outside (oviparous), and these young, when hatched, are born at once, and are not nourished for a time by material from the blood of the mother (viviparous), as are the highest mammals. A little watching in the summer, or on house-plants in winter, will demonstrate this statement. The young lice will be seen at the moment of birth. Outdoors, the last females of the season lay eggs (oviparous), which pass the winter in some crevice, and hatch as the warmth of spring excites development. These plant-lice are also agamic, or illustrate the law of parthenogenesis. Thus they are specially interesting to bee-keepers, who witness the same law in the development of drone-bees. All the summer broods of plant-lice, and there are several, are composed wholly of females. If any of these are captured at birth, and placed at once singly on a plant suitable to their growth and development, each one will mature and produce, or give birth, to many lice. Indeed, our secluding them is quite immaterial, as the closest scrutiny will find no males till fall, when males and the oviparous females appear and mate, antecedent to egg-laying. Plant-lice work almost wholly on the leaves or green tender twigs.

Mr. Reed speaks of the leaves curling up. This is not uncommon. In many cases the leaves retain their shape, but seem to become enfeebled, and the plant dies. In some cases—indeed, quite frequently—the leaves curl up and die. In a few cases, as on the elm and poplar, galls are formed. The curled leaves and galls must serve as both food and house for the lice. Thus such plants obey literally the beautiful commandment, "If thine enemy hunger, feed him," for such plants bestow both shelter and food upon their most hurtful enemies. Nearly all of these plant-lice secrete nectar, some from two tubes (nectaries) which protrude obliquely up and back from the abdomen; others, and perhaps all, from the general surface of the body. This is a secretion; and if experience proves it to be always wholesome, it should not be denounced or regarded with disfavor any more than milk, which is wholly analogous in its origin. This nectar serves the lice in attracting bees, ants, and wasps, which act as sentinels to keep birds and predaceous and parasitic insects from destroying the lice. At the same time, the nectar serves the bees and ourselves as food.

I have often called attention to the difference between this plant-louse (*Aphides*) nectar, and that from the bark-lice. While the former is pleasant and wholesome in all cases, so far as I have examined, the latter (which comes from the flat, scale-like, motionless bark-lice) is bitter, strong, dark, and unwholesome. It is certainly unfit for table use, and I should not deem it fit food for bees.

As to Mr. Reed's query, I should have no fear in using this honey for winter stores, even with the bees in the cellar. Should they die with this honey, I think they would die with any other. I should not be as willing to have my hives stocked with this bark-louse nectar, such as was so common a year ago; yet several used it in cellar wintering, even last winter, with entire success. It may be, that if every thing else is all right, such food would unsu-

wer; yet I should be afraid of it. I dislike to feed my bees what I would not eat myself.

I hope, Mr. Editor, we shall call these substances plant-louse nectar, or secretion, and bark-louse nectar, or secretion—not "bug-juice." The latter term has neither science, accuracy, nor euphony, to recommend it.

A. J. COOK.

Agricultural College, Mich.

Friend Cook, we thank you for making this distinction; but it seems to me that the name you suggest is not much of an improvement—that is, so far as pleasant suggestions are concerned. I do not like the word louse or lice, and I never use it if I can avoid it, although I have placed it at the head of this article. (Can you not suggest a name that does not have any such unpleasant term about it, especially when speaking of honey to those who know comparatively little about such matters?) I do not like to see my friends turn up their noses when I am explaining the wonders of the bee-hive or the forest. Why not say, bark-aphis nectar and plant-aphis nectar? that is, if we must use the word nectar, when nectar seems such a misnomer for the greater part of these products. Honey-dew is not the word, for two reasons: it is not dew nor is it honey. Now, before we settle down upon a name, can't we have one less objectionable? For my part I would have it Latin, rather than to awaken disgust when trying hard to do quite the contrary. I am very glad of the important facts you give in this wonderful matter of these secretions from insects.

DRY FÆCES.

FRIEND MILLER GIVES US SOME PRETTY POSITIVE FACTS IN THE MATTER.

PROF. COOK has mentioned my name as sending specimens of dry feces of bees. I merely forwarded to him specimens sent me by Mr. S. Corniel, of Lindsay, Ont., which were put up so nicely, and withal were such good specimens, that I felt sure Prof. Cook would be interested in seeing them. I am not interested in the discussion about dry feces—perhaps not as much as I ought to be, for I confess that I am ignorant of the exact bearing it has upon bee-keeping. Perhaps Prof. Cook or Mr. Corniel will inform us on this point. The most I know about it is, that Mr. Corniel, with his usual painstaking character, has been trying to show that bees can and do void feces dry, and that Prof. Cook has been for years just as strongly opposing, only latterly admitting that they may exceptionally do so. I don't know that I care two cents which theory is correct, and would hardly enter the lists with any less noble foe than Prof. Cook, whom, with all my respect for him as an author and scientist, I hold in still higher esteem as a friend and brother. And I now enter the lists only so far as to state what has come, without seeking, directly under my own observation among my own bees. If Prof. Cook had been here when my bees took their flight last spring I am not sure but he might have said that dry was the normal, and liquid the exception. I am not mistaken, I think, as to what I saw, for I have often seen the bees in the act of voiding, both this and other years, and have seen thousands of specimens such as Mr. Cor-

neil sent, both on the hive and in the vicinity. I presume I could even now find instances which the summer's rains have failed to wash away. I remember one hive last spring (which was, however, exceptional), in front of which the ground for the space of perhaps two square feet was covered so thickly that I am not sure but less ground than faeces was to be seen. It seemed as if the whole colony had by one consent emptied themselves just as soon as fairly away from the hive; and I doubt if there was among their droppings a single one that would have been called liquid. The cylindrical form could be plainly seen. Without knowing what may be elsewhere, my testimony for this locality would be, that bees usually void faeces in liquid form, but the dry form is very common.

WAX-EXTRACTOR.

After I sent to GLEANINGS an account of my sun wax-extractor, there were cooler days, in which the wax utterly refused to run, and I adjourned the inside gearing to the kitchen stove, where it acted to my entire satisfaction. To any who have not large quantities (indeed, I am not sure but it will work well with large quantities, and who are obliged to use fire heat, I would recommend for trial the following:

Take something in the form of a dripping-pan, with one corner torn open; put it in the oven of the cook stove, with a chip or bit of wood to raise the back part of it. Let the open corner project out of the oven, and place on the floor a vessel to catch the drip; throw in the pan your wax to be extracted, and that's all. Don't be in a hurry; all the better if it melts quite slowly; and if the fire be pretty hot, one or both oven-doors can be wide open.

CLEANING WAXED UTENSILS.

In various ways it will happen that milk-pans, crocks, etc., will be more or less daubed with wax. The attempt to clean them as dishes are ordinarily washed will be an ignoble failure. Don't try to wash them with *hot* water. Here is a dish in which some honey has been melted, and a little wax has been in it. If you attempt to wash it with water hot enough to melt the wax, you will succeed only in having the dish more thoroughly waxed. But wash off first the honey with cold water, at least cool enough so it will not affect the wax; then wipe dry, and heat till the wax melts (if the dish is not too large, a good place is in the stove oven), then take pieces of newspaper, and, without allowing to get cold, simply wipe the dish clean of wax.

CAN BEE-GLUE BE UTILIZED?

A good deal of propolis will be accumulated in cleaning off sections. It makes good fuel. Can any better use be made of it? A year or two ago I conceived the idea of melting it up and coating honey sheets, or quilts, with it. The attempt was an utter failure; but in heating the bee-glue I found a liquid settling on top, which, on carefully pouring off, I found to be very nice beeswax. As I had a large quantity of bee-glue, I obtained, if I remember rightly, about 7 lbs. of wax. C. C. MILLER.

Marango, Ill., Oct. 1, 1885.

I hope the friends will excuse me for taking this matter up again, after once saying I thought it best to say nothing more about the subject for the present. Friend Miller, however, gives us some facts from experience that have not been given before. I have felt sad to see the parties on both sides

of this question talk so vehemently, and, I must confess, a little stubbornly, sometimes, when it seemed to me, as friend Miller expresses it, it did not matter very much who was right or who was wrong. I should like to put in just a word, though, for our friend Cook. If I am correct, the principal point at issue was, Do bees drop dry faeces on the bottom-board of the hive while in winter quarters? The friends on one side of the question insist that they do, and that that is the healthy and normal way for bees to winter. Even friend Miller does not claim to have found dry faeces on the bottom-board of the hive, although he has found considerable quantities in front of the hive, that might almost be said to be dry faeces.—In regard to wax-extractors working by the sun's rays or by putting in the oven, on the ingenious plan suggested above, do not all such arrangements leave considerable nice wax among the debris? I agree with friend Miller exactly, in regard to cleaning wax from utensils. Trying to scrape the wax off with a knife is the poorest plan in the world, and it annoys me greatly to see the women in our wax-room undertake to work in this way. I have for some time been aware that what is called "bee-glue" contains considerable nice wax.

KILLED BY BEE-STINGS.

WHAT WE CAN DO TO AVERT SUCH CATASTROPHES.

THE following sad case seems to be authentic, without question. An important thing for us as bee-keepers to do is to decide upon the best course of action when such things do happen, although it is only once in a great while.

SINGULAR DEATH OF MRS. FADER, A PENNSYLVANIA BEE-KEEPER'S WIFE.

Thomas Fader, of this place, keeps several hives of bees in his garden. Yesterday forenoon he was at work among his bees. A man with whom he had some business dealings called at his house to see him. Mrs. Fader went out to call her husband into the house. As she approached the bee-hives a number of bees flew into her face, and she was stung several times. One of the bees stung her in one of her nostrils, and another one stung her on the upper lip, at the base of the cartilage dividing the two nostrils. Mrs. Fader's cries brought her husband to the spot. He extracted the stings and applied wet earth to the wounds. He went with his wife back to the house, and had no thought of any consequences resulting from the bee-stings more serious than the swelling and pain. He left his wife in the kitchen, applying ammonia to the wounds, and entered a front room, where his visitor was. A few minutes later he heard a heavy fall in the kitchen. He ran out, and found his wife in convulsions on the floor. Her nostrils were swollen shut, and her lips were twice their natural size, and had turned dark blue. She breathed short and quick through her mouth. Her face was so swollen that its identity was entirely lost. Mr. Fader hurried his visitor after a doctor, but before one arrived his wife died in her husband's arms. The doctor said that the stings in her lips and nostrils had sent a shock like electricity to her brain, and from that to her lungs and heart, so severe that she was unable to rally from it. Mrs. Fader was twenty-eight years old. It was but forty-five minutes from the time she was stung until her death.—*Gouldsville (Pa.) Special to New-York Sun.*

At first thought it almost seems as though no one was at fault in the above transaction, and that there was no way of averting such

an occurrence, or of saving life where the symptoms are so severe. Lest any one be frightened by it, however, I will say what I have said before, that deaths from bee-stings are nowhere near as common as deaths from accidents from horses. Accidents are liable to happen with almost any kind of the domestic animals; but for all that, we want to see what can be done toward saving life. Had our poor friend who lost her life been accustomed to bees, or had had her thoughts about her, I hardly think she would have gone among them when they were stirred up, as they evidently must have been. I have seen people push ahead into an apiary when I should have known, before I came within several rods of the hives, that one would be sure to be stung if he did not retreat. One who is familiar with bees learns to tell very quickly when it is safe to go among the hives. Another thing, when I decide to go among angry bees I always shield my face by pulling down my hat, and putting my hands before my face. This action alone seems to have considerable effect in keeping the bees away from the eyes and nostrils. I seldom get stung in the face nowadays. If at all, it is on the back of my neck or the back of my hands—possibly on the ears or forehead. The swelling from a bee-sting may obstruct the breath; but usually in such cases, I think that with sufficient presence of mind an attendant ought to be able to keep the passage to the windpipe open. In cases of swelling of the throat from quinzey, the handle of a spoon is often used for this purpose. It may be, however, as stated in the above clipping, that death resulted from some other cause than suffocation.

It is a good thing to give place to these accounts, that people may be warned, where they are unaccustomed to stings, or where much pain and swelling follow, to be careful about recklessly exposing themselves when bees are infuriated from any cause, as they must have been in the above case. I do not believe that I would resort to ammonia or any thing, unless it is cloths wet in cold water, to allay the fever. Of course, the stings should be extracted promptly; but it should be done without squeezing the contents of the poison-bag into the wound. The blade of a knife is often the readiest means of doing this.

PREVENTING AFTER - SWARMS, AGAIN.

FRIEND DOOLITTLE GIVES US SOME ADDITIONAL
IDEAS IN THE MATTER.

ON page 600 I see Bro. Heddon could not be persuaded to adopt my plan for prevention of after-swarms, and does not think any will tolerate it when once they "get the hang" of just how to use his method. Well, as far as Bro. H. is concerned I presume I ought not to expect him to even try the plan I gave, for he "can not be persuaded" to try friend Root's chaff hives, nor even the Simplicity size of the L. frame. Again, he must have Heddon's hives, honey-boards, shade-boards, non-erasing crayons, and that 15 to 25 pound stone, all of his own, so I am content to let

him have them, and to use his plans without further molestation; but for the benefit of those who use chaff hives, tenement hives, house-apiaries, etc., I wish to tell them how nice the plan I gave on page 557 works. Many have complained of the unwieldiness of the chaff hive in swarming-time, and urged that as a reason for not adopting it—especially the ladies, who had nearly their match in trying to move even an eight-frame Langstroth hive. To all such I would say, that I have come to the conclusion that chaff hives are an actual necessity for outdoor wintering here at the North, and in the future I expect to use no others, except for those I winter in my Lee-cellar. That the plan given on page 557 gives all the advantages that Bro. Heddon's plan does, I think no one will deny; and it is especially adapted to chaff hives, as I have proven during the past three seasons. The box used for carrying the combs need not weigh over 5 lbs., and a handle convenient for carrying can be readily attached to it, so that any lady can use this plan without fatigue, no matter what hive she uses, while the chaff hives, large tenement hive, or the Townly chaff-packed dry-goods boxes, are just as easy of manipulation as any. In short, I have never used any thing about the swarming of bees which worked so perfectly, and pleased me so well, as this plan for the prevention of after-swarms.

WHERE THE BEES COME FROM TO SWARM ON THE
HEDDON PLAN.

On page 600 Bro. Heddon wants to know, "Whence did that colony get bees to swarm with?" referring to a colony treated exactly as he says they should be. Well, I will try to explain. When I first began to try the removal plan to prevent after-swarms, as given years ago, I noticed, that many colonies would often not stir at all for two or three days, while others would commence to work their new location at once; and in either case such a hive was sure to swarm. Once in a while one would keep on giving off bees, which left the hive in a straight line, until the colony was fearfully reduced, in which case no swarm would issue; but these latter were the exception rather than the rule. One other item bearing on this point: Several years ago I gave in GLEANINGS how I was led to form nuclei by taking a frame of brood, with queen and bees from any hive, and placing it where wished in any empty hive, the bees, as a rule, would adhere to the queen; while if no queen was given, all the bees that could get back to the old hive would do so. From this I learned that a colony having cast a swarm looked upon their queen-cells the same as any other colony did on their queen, after which I carried a frame of brood and bees with a nearly ripe queen-cell, and placed in an empty hive to form a nucleus, when in most cases the bees would not return. Now, this has a direct bearing in this locality on the moving of all hives which are especially anxious about their queen or cells. Just as soon as I would move a hive on the Heddon plan, the bees would stop issuing from it in less than one minute after it was placed on the new stand, and there they would stay for two days, when out would come a swarm. In one instance I moved a hive in the middle of a bright day, and immediately the bees stopped drawing off. For three days I watched to see a bee leave or return to that hive, and not a bee was seen. At ten o'clock the third day, or ten days from the time the first swarm left, they swarmed again,

when I cut out all the queen-cells and returned them. They now went to work with a will, and gave me 62 lbs. of honey in sections. Again we had much rainy weather during our swarming-season, so that the day on which the old colony was to be removed would be rainy or cloudy, so no bees would be flying; in which case, if moved, of course no bees would be in the field. I generally left them until the next day; but on one occasion the 6th, 7th, 8th, and 9th days were all rainy or cloudy, so I waited till the morning of the 10th, when several colonies were moved, and all swarmed soon afterward, owing to the sun coming out bright and warm. In this latter case there can be no help in the matter where any hives are manipulated, and I think even Bro. H. can see plainly where the bees come from. In all cases where I could be on hand when the young bees were having a play spell in the afternoon of the 6th day, and move the hive when said bees were out the thickest, I could make a success of the Heddon plan. G. M. DOOLITTLE.

Borodino, N. Y.

Friend D., you seem to have your own notions, and friend Heddon has his own notions, and each of you succeed quite satisfactorily, because your ideas and ways are all in accordance with said notions. I have often noticed the way in which you say it works when you move a hive away during cloudy or rainy weather; but your idea in regard to moving a hive while they are out playing, is something I never thought of; and without question the idea is a valuable one. By this means we can get a nice lot of young bees, just the right age to make the nicest kind of a nucleus.

BEE BOTANY,

OR, HONEY-PLANTS TO BE NAMED.

LEAF-CUP.

I SEND some seeds, leaves, and flowers of a plant to be named. It is a wild autumn flower growing in the woods. At the present date the bees are at work on it quite lively. It is an annual, growing 3 or 4 feet in height. While watching the bees at work upon it I could not see that any of them were gathering pollen. Besides this plant, bees are now working quite fast on buckwheat, also on smartweed and other kinds of wild autumn flowers. There is an immense lot of smartweed this year. All through the first part of the season, the bees could not do much; but when basswood bloomed they worked finely. CHARLIE L. GREENFIELD.

Somerville, O., Sept. 23, 1885.

Prof. Devol says of it:

The specimen sent is leaf-cup (*Polymnia Canadensis*, L., variety *discoidea*, Gray). It is a coarse, broad-leaved, climbing plant, without value, growing in shady ravines and moist woods. It is peculiar in having the corolla in the few florets that produce achenia (seeds) reduced to a hairy ring around the base of the style. W. S. DEVOL, Botanist.

VIRGIN'S BOWER (CLEMATIS VIRGINIANA).

I should like to know what kind of plant this is. It is a vine, and is covered with flowers; the bees work on it all day in great numbers.

Cornwall-on-Hudson, N. Y.

J. B. CLARK.

Prof. Devol says:

The plant is the common virgin's-bower (*Clematis Virginiana*, L.), the pretty wild vine growing along the rivers and fence-rows, covered in mid-summer with fine white flowers, and in autumn with fluffy, feathery balls of a creamy-white color, so beautiful for winter decoration. It is quite easily transplanted, and makes a beautiful arbor, screen, or trellis plant, a number of branches from each root growing from 10 to 30 feet in a season. The downy balls are caused by the plumous tails attached to the fruit.

W. S. DEVOL.

Ohio Agricultural Station, Columbus, O.

FALSE STATEMENTS IN REGARD TO THE HONEY BUSINESS OF OUR COUNTRY.

As a protection to our bee-keeping population, we propose in this department to publish the names of newspapers that persist in publishing false statements in regard to the purity of honey which we as bee-keepers put on the market.

MR. C. F. RAYMOND, of Cleveland, Ohio, sends us the following, taken from the East End *Signal* of Sept. 19, and credited by them to the Chicago News:

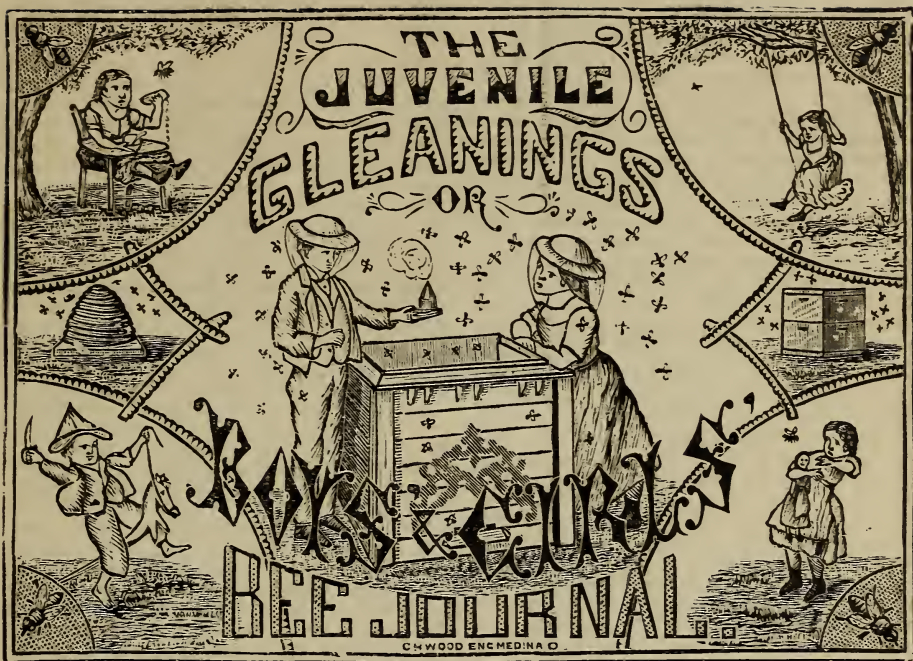
WHAT BEES ARE COMING TO.

A Michigan apiarist has succeeded in teaching his bees to make honey from glucose. He began by setting pans of syrup near the hives, and as the bees became habituated to sucking sweets from them he daily reduced the amount of syrup more and more and filled in with glucose, until finally the bees were sucking only straight glucose, and making honey at an astonishing rate. The small, barefooted son of the apiarist, who innocently "gave the old man away" to a Detroit reporter, said that the bees made about twice as much honey under the new method as they used to when they had to spend most of their time gathering raw material from flowers and clover-blossoms.

We have long thought that bees were too primitive in their methods. We have had a sort of intuitive belief that they were capable of high civilization if man would only influence and direct them in proper and useful channels, but never until now have we had substantial proof of it. The Michigan apiarist, however, has opened a field so broad that it seems almost boundless. The possibilities suggested by his successful experiment are bewildering. If by straining glucose through bees a man can get honey, why may he not strain chalk and water through them and get choice milk and cream, or banquet them on soap-grease and get prime Orange County butter? Why may he not feed them on logwood and cheap alcohol and obtain a first-class brand of port wine? or, by substituting some other ingredient for the logwood, get a "superior article" of any other convivial beverage?

It is not well to educate the bees too highly all at once. But if we carry on the civilizing process gradually there is no reason why the bee may not become one of the most useful factors of future progressive civilization.

The writer of the article seems to recognize the story as a fraud, judging from his pleasantry; but after all, it seems to me that even pleasantry is not the thing where credence in such reports may be a wholesale damage to a large number of innocent people. If the *Signal*, and all other papers that have given such reports a place, would come out frankly and correct the impressions to which they have given publicity, and state that glucose is not honey, and feeding it to bees can in no way make honey, any more than feeding chalk and water to a cow can change it to milk, they might do us some service in righting the wrong they help to disseminate.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

Thou hast been faithful over a few things, I will make thee ruler over many things.—MATT. 25:21.

Cast thy bread upon the waters: for thou shalt find it after many days.—ECC. 11:1.

I FELT as though I wanted these two texts, little friends, to indicate what I want to talk about to-day. The thought was something like this: That men go along a great while, sometimes, trying hard to do right, and it does not seem to amount to much of any thing. Finally, however, it may be years after, and when we had forgotten all about how hard we tried to say, "Get thee behind me, Satan," the reward comes. We had cast our bread upon the waters of this world long years ago, and supposed it was lost and forgotten. But here is a wave that brings it up again. Again, we may be growing in Christian graces, and we may be growing, too, in our ability to help the world along, and not know it or think of it. Do you remember in that passage where Jesus told the good folks that they had been helping him all along, and they did not know they had helped him at all? The text reads this way:

Lord, when saw we thee a hungered, and fed thee? or thirsty, and gave thee drink? When saw we thee a stranger and took thee in? or naked, and clothed thee? Or when saw we thee sick, or in prison, and came unto thee?—MATT. 25:37-39.

Now for my little story:

Our railroad company have decided to widen their tracks right here before our factory, and they are also building a new depot,

a good deal, I believe, for the accommodation of our business. In order to make the track wider they have had to cut down a hill; and to do this they are working right in front of our factory windows with a steam-excavator, if that is the proper name for it. It is a great ponderous engine made of timbers and massive chains: and in front of it there is a great iron scoop with massive steel horns that dip into the ground until it gets a mouthful, and then it drops it out on to one of the train of gravel-cars. As it is a new thing in our town, crowds of people gather around to see it dig through the hill. It really looks at first sight like some of the old sea-monsters, with its gigantic frame and monstrous head. This head it dips down into the hard stony ground, and roots up a small hill as if it were a hog rooting in a potato-patch. When it gets a load on its nose it swings its long neck around and drops the dirt in the right place, as if it were alive. Then it noses about to see where it will commence to root next time. Huber calls it "Great big ingel." He has probably got his knowledge of engines and the angels his papa has told him about, a little mixed up; and I have wondered sometimes whether the term "angel" would be so much of a misnomer after all. It must be a messenger of mercy to the poor men who have for ages done all this hard work by back-breaking toil. When the operatives of this machine got it well started, so that every thing worked all right, smoothly and safely, the ponderous thing seemed to warm up with exercise, and to really put on life. The

great neck swings around so quickly that it makes the chains rattle like a tornado, and the massive beams creak and groan under the enormous strain of the heavy loads that that neck of iron raises up. One stands by and feels like lifting his hat with reverence toward the little man who stands perched up between the timbers forming the arch of the neck while he pulls the different levers that make the great machine do his bidding. How is it possible he can do all this without making a mistake? The great iron tusks, as they appear to be, strike in just the right spot, and go just deep enough, and not too deep. At this very instant the steam begins to do its work, as we have evidence by the enormous puffs. The earth trembles beneath our feet while the ground is rent and torn as if by a small earthquake. But the minute these great tusks reach the surface of the ground, the enormous power all of a sudden eases up; and as the machine swings around with its load it seems as quiet and obedient as a little child. Surely this man who manages it, and who has the trained eye, to skillfully direct this great power, must be a man of wonderful intellect; he must be a man of great education and skill. I gazed on him and then on the machine in wonder, and went back to my work, leading Huber, who obeyed his papa, but rather reluctantly. In the evening somebody was in the counter store, looking at a hammer. He was a very commonplace-looking individual, and one who spoke our language but imperfectly. Yes, he was the one who handled those levers and wheels and chains during the day. Was he a college graduate? No, but just as good a man in God's sight, and he may be better than a good many who have borne honors. He was a man who had probably been faithful in his every-day work, and his employers had learned by degrees to intrust him with important machinery; and at length he became an adept in his line, and could make that piece of mechanism for that particular work rattle and bang in a way that seemed almost frightful to bystanders; yet he did it with perfect safety, and with little danger of breaking or injuring any part of it. He simply did his duty in the place where God called him. Dear friend, are *you* doing your duty well and faithfully right where God has placed you? I want to come a little nearer home yet—am *I* doing *my* duty well and faithfully—casting bread on the waters some of the time, feeding my fellow-men for Christ's sake, and doing it all gladly and patiently? I am afraid I am not.

Since our last issue went to press I decided to visit the city of New York. It was a sudden conclusion to go. I told Mr. Holmes, my brother-in-law, that I wanted to stay only three or four hours. He gave me a severe talking to, and told me I had no *right* to go to New York and stay only three or four hours, even if I did feel like doing so. I concluded, after thinking it over, that he was right. It would be selfish for me to go so far, and stay so short a time, and that my duties toward my fellow-men and toward you, dear readers, demanded that I should stay at least a couple of days. In order to

save time, I rode with the engineer on a locomotive to our nearest station on the N. Y., P. & O. Railroad. Now let me digress a little.

For some time lately I have been making it a subject of prayer to God that he would give me more love toward my fellow-men, and he has been opening my eyes in that direction. It is true, that I occasionally have fits and spells of loving even my enemies, but, with sadness I say it, I have a good many fits and spells of *not* loving very much even my friends; that is, if I don't look out I keep dwelling on the weaknesses and imperfections of my fellow-men. Sometimes I get into a real bad spirit because somebody has heedlessly wronged me out of a few cents. I do not often say very much about it lately, for God has taught me to keep it to myself when I can not do any better. And he has also taught me to get out of this bad state of mind. I talked to you about it last month, you know. Well, I am naturally very bashful, if that is the word. I am afraid of people. I get notions in my head that they don't care any thing about me, and don't want to be bothered, when directly opposite is the truth. Jacob told me I could ride down on the locomotive when they went down to fill their water-tank, but I thought they would not want to be bothered with a passenger. I spoke to our agent about it, and I felt ashamed of myself when I saw how kindly he undertook to make arrangements for my going. Jacob told me they were all ready, and that I must hurry up and jump on. Ernest helped me to scrape up my few "traps;" and when I came to climb up by the engineer, instead of finding a gruff sort of swearing man, which I had pictured in my mind's eye, I found a very quiet, friendly, boyish-looking fellow who reminded me, by his hearty good nature, of some of my own German boys. I felt ashamed of myself; and when he offered me a part of his dinner, because he had noticed I had forgotten to bring any, I felt more ashamed still. In my talk with him I pretty soon found that he was the very engineer who was running the engine at the time our old friend Fred was killed. He knew of me through Fred; and when I had been casting bread on the waters by visiting boys in jail, I had been making for myself a warm place in the hearts of these sturdy laborers. I watched my new-found friend as he pulled the levers and handled the ponderous locomotive, moving it an inch at a time, if need be, and starting it up so gently that only a very small amount of power was needed, so that it seemed like a child in his hand. He, too, had been faithful in few things, and now the company intrusted him to the care of this great locomotive; and from what he said about Fred I knew he had been a great many years filling his place of important trust. Little did I think, when I went into our county jail and plead with these boys for the cause of Christ, that my work would be felt years after among these rough hard-working men along the line of our railroad.

When saw we thee a hungered, and fed thee? or thirsty, and gave thee drink? or in prison, and came unto thee?

AUNT KATIE TELLS US A WHALE STORY.

ALSO SOMETHING ABOUT CALIFORNIA ACROSS THE COUNTRY.

ABOUT five weeks ago we saw an account in a paper of two whales being seen off Port Harford, sixty miles away, and some one shooting at them with Henry rifles, and securing one of the whales. About a week ago we read in our local paper that a dead whale had stranded on the beach near Point Sal, twenty miles from here, and that it had four bullet-holes in it. Being so near, we concluded to pay it a visit. So we loaded up our wagon with tent, bedding, and provisions, and plenty of wraps (for the ocean breezes at the beach are quite chilly). After picking up a friend from Missouri, who had never seen a whale, we all joyfully rode along. We made a camp-fire beside a wayside spring, at noon, and made a cup of tea, and ate our lunch. Then we arrived at the beach about 4 p. m.

That the whale? Why, it looks like a monstrous black rock; and, see! it has a white tail. We soon got near enough to see that the tail had been "peeled," as the boys called it; that is, the fat, which was from two to six inches thick, had been cut off. The whale had stranded on its back, and the sea was dashing against it, so we were unable to see the head, the part we wished most to see; but we were told that the tide would be out in the morning, so after looking at the huge monster till we were tired, and feeling almost fear at the tremendous breakers as they dashed upon the beach, we retired back from the shore and pitched our tent among the sand dunes which extend along the beach at this place. By keeping to windward we escaped all scent, which is slight, considering the size of the object, and the time it had been stranded. We then got our supper. As we were sitting by the camp-fire after supper, one young gentleman who was among the hands trying out the fat, came up and invited the male members of our party to a coon-hunt; but being pretty tired, they declined. The next morning the boys told us they got four coons, and that as soon as a coon found himself chased he would make for the water; that one coon had caught hold of the dog's ear and had tried to hold his head under water, and that George had run out into the surf and helped get the coon, and that he got wet through. He got the coon, though, and that paid him for the wetting.

The tide had been down and up, and was now going down again; and as soon as it got low enough they were going to cut off the head of the whale so that they could turn over the body in order to get the rest of the outside fat, of which they had secured only about a fourth. They had 500 gallons of oil rendered out. We waited until 10 A. M., but the tide had not gone down enough to get at the head without getting wet by the breakers, so we did not see any more of the whale than we had seen the evening before; but we ran all around it between the waves, and some of our company went on top of it. Three men and a boy didn't occupy much space on that mountain of flesh. When first found it was quite out of the sand, and it was measured. It was 72 feet long, and 15 feet high. Every time the tide came up, the body settled into the sand, and it had flattened out till it looked like a black floor, big

enough, almost, for a skating-rink. The flukes at the end of the tail are put on opposite to what a fish-tail is, and each section which lay spread out upon the sand was about five feet by two, and about five inches thick. When they are angry they bring the tail flat upon the water, with force enough to smash a good-sized boat.

As we could not stay any longer we packed up and started back home. We showed our friend where the men used to haul the wheat raised in the Los Alamos and Santa Maria Valleys, to be shipped by steamer to San Francisco, until the railroad was built; and as we had come to the beach by one road, we thought of returning by the other road the men often took on their return, rather than meet the six-horse teams and the attendant dust. We had loitered about Point Sal until we found we couldn't get quite home that night, so we went on until we came to the Los Alamos Creek, expecting to find water as in olden times, but found it dry. So we followed it up until stopped by a fence. We then camped among some willows, and fortunately found water, borrowing some potatoes from a field near by, and there we found out why the creek was dry. It had been used to irrigate with. We got supper. We had been out longer than we had intended, so our provision-box was about empty, hence the potatoes. In the morning we found a gate, and passed through into a field, and soon found a road. It had been partly made, and was over quite a large hill. The men had to hang on to the side of the wagon with all their might, to keep the wagon from tipping over. You may be sure that I and the "little ones" did not ride until safely at the top. We had some sport laughing at the notices to trespassers, warning them not to cut timber on the place. As nothing was to be seen but brush for miles, we wondered where the timber was. After going along the road about three miles, and finding that we were going away from home, we felt uneasy; but as unbroken fences barred the way, we had to keep on or go back ten miles. We soon espied a man in a buggy, coming toward us. He proved to be an acquaintance, and the overseer of the ranch where we got the potatoes. So we told him we had added a "T" to each word of the name of our valley, to describe our condition, making it Los-t Alamos-t, and we mentioned the potatoes. He told us the road home, and said that was the right thing to do when one was hungry; viz., help yourself from a friend's garden, and that we ought to have driven up to the hay-stack near the field, and fed our horses. There is California hospitality for you.

While digging the potatoes our Missouri friend objected; but we told him that as we gave so often of our abundance to campers and tramps, when we were in a strait we only paid ourselves, always in moderation, of course. Our friend treated us to some of the fruit of the prickly pear, which he had in his buggy. The natives and Mexicans like them very much. It tasted to us like a sort of mixture of cucumber and musk-melon, quite eatable when nothing better can be got. We traveled three hours from the night's camping-place before we reached a road that led us home. We had camped ten miles from home, and at 10 A. M. were still ten miles from home. We were wishing that Bridget had some nice coffee made when we got home.

"Who is Bridget?" says the baby. We had to acknowledge that we were Bridget, so the coffee was not ready, of course; but we soon had some when

we did arrive, voting that we pretty nearly paid too dearly for the whale, but not quite.

Los Alamos, Cal., Sept. 7.

AUNT KATIE.

Well, Aunt Katie, I have learned something from your little story, any way, for I did not know before that whales come along the coast of California. I find it also quite interesting about your trip across the country. I think your disposition must be something like mine. Whenever I go anywhere I always want to go back a different way. My wife objects, because she says I always get lost, or waste a good deal of time; but I tell her it is worth being lost, just to feel that you are on a road you never traveled before. I always like to be on a spot that is to me an "unexplored region."

GOOD REPORT FROM A JUVENILE.

440 GALLONS OF HONEY FROM 20 SWARMS; ALSO SOME OTHER THINGS OF INTEREST.

ACCEPT my thanks for the book you sent me. It was more than I expected or deserved. We make farming our chief employment; have not lost any time, to amount to much, from the farm, to tend bees, until this year. We make our own hives and frames, and can't afford to buy them. Last spring, on going to Pond Creek to improve some land, we carried 15 weak swarms (late after swarms from last year), three new swarms, and two nuclei as a kind of experiment. I did not use any foundation or empty combs in supers. No one lived on the place. I went in company with my pa every ten or fourteen days (as we could spare the time from the farm and home apiary), examined each colony, made note of condition, date, etc., on front of the hives. We tried your slates, but the wind blew them down, and the rain washed the note off. We increased to thirty colonies by division; to avoid swarming we put on supers early in May, and had two colonies badly weakened by after swarming (overlooked queen-cells). We have extracted 354½ gallons up to date. They have thirty or forty gallons in supers at this time, but we have no time to extract. We did not extract from brood-chamber after June 5th and 6th. We found at that time the queens had been crowded from the brood-chamber to the supers. The A B C book said extract. We did so. We placed brood-frames in lower story June 5th and 6th, and extracted 86 gallons. Imagine our surprise, on returning, June 17th, to find the front and side of nearly all the hives covered with idle bees building comb on the outside of the hives. We used the extractor and put on another super, and all hands went to work as nicely as ever.

Horsemeat in bloom, and waist-high all over the apiary—indeed, all over the country. On the 7th of August a neighbor carelessly let fire get in our inclosure. The dense grass, from knee to hip high, and dry from long drought, was soon in flames. The timely arrival of five or six neighbors saved our apiary from total loss. One colony was burned, several others badly damaged. One of the men had his hands badly burned in fighting the flames. Some of the trees 20 feet high had all their leaves burned off.

Last spring we killed two large rattlesnakes in our apiary, from which it takes its name. The rat-

tlesnakes in that neighborhood are as thick as pig-tracks.

We had no rain in Rattlesnake apiary from May 27th until July 5th; none since that time up to date.

I wish to say to the juveniles, your letters telling of your little sisters and mothers make me envy your happy lot. My mother died five years ago, depriving me of a mother's care, and, dearer than all, a mother's love. My two little sisters, seven and eight and one-half years old, live with their aunt in Bell Co., Texas.

SAM. H. TERRAL.

Jones' Prairie, Texas, Sept. 14, 1885.

Why, my good friend Sam, if you have a locality where honey comes in at such a rate that your bees all build combs in front of the hives, it must be a "big thing" indeed. If such a thing ever happens again, you want to let the farming go, and stick right to the bees; sit up nights, do almost any thing, rather than let the bees lie idle during such a harvest as that.—We deeply sympathize with you in the loss of your mother.—I would have a piece of plowed ground around that apiary, broad enough to prevent the fire from running into it again.

MAKING BEES HATCH HEN'S EGGS.

AN UNPATENTED INCUBATOR.

WE live 200 miles southwest of Dallas. We have pre-empted us a little home four miles south of Lampasas, consisting of 19 acres. Our bees, 30 colonies, are in good condition.

Pa has invented us a cheap incubator. Take a Simplicity wide frame, cover it with wire cloth, fill it with hens' eggs, then place in a strong swarm, putting a frame of unsealed brood on either side of it, and lift out and turn the eggs once in 24 hours. The eggs will need no moistening, as incubator-books direct, but the bees will tend to that. We have not hatched any quite out; but late last year pa suggested that if his queens hatched well under a hen we would try eggs in a bee-hive. So ma put in twelve, and they nearly hatched. The bees swarmed a week before time for them to hatch, and it came a cool rain, and they died in the shell. Ma broke the eggs and they had great big chickens in them. We are going to try more this season, and pa said he would say nothing about it until we hatched some chickens out; but ma thinks that some one else can try also, and be successful.

Lampasas, Texas. AMANDA ATCHLEY, age 12.

Well, Amanda, you have got something original, surely; but I am inclined to think, that, as a rule, sitting hens would be cheaper than a strong colony of bees. Unless the weather is extremely hot during the whole three weeks, I do not believe a colony would keep the eggs warm enough, unless you make a chaff cushion to fill, say an inch and a half or two inches of the space all around the wide frame; or, what will be simpler, and easier done, cut out the center of a chaff-cushion division-board. Tack wire cloth over this central hole, and put the eggs between the two sheets of wire cloth. A good swarm of bees would, without doubt, under favorable circumstances, hatch, say five or seven eggs. When hatched, take out the egg-shells, and you might use the

arrangement for a brooder, providing you put on double wire cloth, so the bees could not sting the chickens.



Every boy or girl, under 15 years of age, who writes a letter for this department, CONTAINING SOME VALUABLE FACT, NOT GENERALLY KNOWN, ON BEES OR OTHER MATTERS, will receive one of David Cook's excellent five-cent Sunday-school books.

Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows; viz: Sheer Off, The Giant-Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room. We have also Our Homes, Part I, and Our Homes, Part II. Besides the above books, you may have a photograph of our old house apiary, taken a great many years ago. In it is a picture of myself, Blue Eyes, and Caddy, and a glimpse of Ernest. We have also some pretty little colored pictures of birds, fruits, flowers, etc., suitable for framing. You can have your choice of any one of the above pictures or books for every letter that gives us some valuable piece of information.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

WELL, little folks, while "my pa" has gone to New York, I'll just crowd myself up in this little corner, and give you a little talk on how to write letters. He won't know any thing about it until he gets home, will he? With your keen bright little eyes, and willing hands directed in the right way, I fancy you may be able to tell even some of the "big bee-men" something *they* didn't know before. Now just listen, and perhaps I can tell you how. When you sit down to write a little letter, read very carefully the fine print at the top of this page. It says you must write something new. That is a pretty hard task, isn't it? Some of our big folks find it so, at any rate. Now, as you have got lots of energy and a pair of eager little eyes, I believe you *may* beat your papas and mammas if you try real hard. Now I am going to give you a sample of a letter such as we don't want, because it has become stereotyped: that means, over and over again; see if it doesn't sound natural.

"My pa keeps bees. I don't like bees, but I like honey. My pa has a pig, a cow, and a calf. I have got two brothers and three sisters. I go to Sunday-school. If this is worth a book, send me one."

The above gives no new fact of general interest; and while it did very well at first, it sounds old now. Perhaps I am expecting a good deal from you little folks, but the last two or three issues of GLEANINGS proves that you can write real good letters if you try.

Now I am going to give you some work to do. While the bees are getting a little pol-

len, tell us, as well as you can, from what flowers the bees are gathering it, and its respective color: how they put it on to their legs, and how they take it off. One more, and then I'll stop. Mark a bee in some way that has lost his sting (perhaps you can cage him best), and tell us how long he lives, or whether he dies at all. I am aware these are hard; but if you get your mamma to help you, I think you can do it. Now if you will try to help me, I will give you a talk upon a bee's leg; won't that be a queer subject?

I'll sign myself— HUBER'S BROTHER.

ANOTHER HUBER.

My name is Huber. My brother Charlie has five hives of bees; he takes GLEANINGS. I think your Huber is as full of mischief as I ever was.

Oceanee, Ill.

HUBER ALLEN.

TWO BITS OF WAX.

My father has 15 hives of bees. This morning he was out, when a bee alighted on his hand, and he let the bee sit a while; and when the bee flew away he left two little bits of comb on pa's hand.

HENRY WILLIAMS.

Banks, Minn., Aug. 30, 1885.

A SWARM OF BEES THAT STAYED ON A CURRANT-BUSH ALL NIGHT.

We have 12 hives of bees, and I have a house in the garden, just beside the hives. Last summer I found a swarm on a currant-bush, that had been on the bush all night.

THERESA LINTON, age 7.

Aurora, Can.

BEE-POISON, AND HOW IT AFFECTS SOME PEOPLE.

My cousin has many hives of bees; he takes in honey every year. His name is Willie Blair. When the bees sting him it lays him in bed about a week; but when the bees sting us it does not harm us.

Stateburg, S. C.

GEORGE S. ELLISON, age 8.

A LITTLE GIRL WHOSE PA TOOK 6500 LBS. OF HONEY.

My pa has lots of bees, all Italians. He sold 6500 lbs. of honey last year. He has a foundation-mill, and I help him to make foundation. I love to help make it and put in section boxes.

Ellismound, Ill.

EMERY PEER, age 10.

JOHN'S LETTER; SOMETHING ABOUT WHITE-FACED CATTLE.

My uncle has eight hives of bees. They made 350 lbs. of honey. He went to Aurora, Ill., on Christmas, and bought six head of Hereford cattle. They all have white faces. They look very nice.

Mt. Carroll, Ill., Jan. 8, 1885.

JOHN ROHRER.

"PUT MY PAPA DOWN IN BLASTED HOPES."

Put my papa down in Blasted Hopes. Two years ago we had 100 swarms, and now he has just two left. My grandpa Bennett takes GLEANINGS, and I like to read the letters from the little boys and girls. I am going to save up my money until I get enough for grandpa to send for me a watch.

Alexandria, Minn.

TOMMY COWING, age 10.

HOW TO COLLECT INSECTS.

I am making a collection of butterflies and bugs. I have made one, and now I am making another. The way I make them, I take a box with a thin bottom, and drive pins up through, about one inch apart. When I get the butterflies and bugs I kill them, and put them on the pins, and it makes a real

pretty collection. My brother takes GLEANINGS, and I like to read the letters from little folks.

NETTIE H. CRANSTON, age 10.

Woodstock, Champaign Co., O., Sept. 19, 1885.

All right, friend Nettie; but whatever you do, don't be cruel to the poor butterflies and bugs. If it is necessary to kill them, do it with chloroform, or in some similar way, so as to avoid giving them pain, or torturing the poor things needlessly. Prof. Cook recently told us how he kills bugs and insects.

LIZZIE'S LETTER.

My little sister wrote you a letter to-day, and I thought I would try to write one; but I don't know how to word a letter. Papa told me to tell you that he had 156 stands of bees. He sold 31 stands for \$156, and he sold lots of Italian queens. I am a little girl, and can't do much but go to school and play.

LIZZIE PEER, age 7.

Ellismound, Ill.

SOMETHING FROM FLORIDA—FISH, OYSTERS, AND BEES.

We have lots of fish and oysters down here. I think that you had better come down here and get some. The bees have not done well this summer. We have three hives of bees; we got a small barrel of honey from our bees.

EVA S. GLAWSON.

Hawk's Park, Florida.

PUTTING BEES UP STAIRS FOR WINTER—RESULTS.

My father has 15 stands of bees. I have one stand. Father put one stand of bees up stairs to feed it, and it got too hot for them up there, and he brought it down and let them fly, and did not put it up again, and it starved to death. Another one died and he took out the honey and weighed it. It weighed about 40 lbs.

GEORGE E. GILSON, age 12.

Westchester, Ind.

HOW PAPA WINTERED A SWARM ABOVE THE COAL-STOVE.

My papa keeps a few bees. He commenced last spring with four colonies; increased to ten; we got only 61 lbs. of honey. Two colonies have died during the winter. My papa took one colony up stairs in a room above the coal-stove, to experiment, and darkened the room. They wintered very nicely, and he thinks it is a good way to winter bees.

Burlington, Pa. EDWIN E. MERRING, age 10.

DID OUR BEES DIE BECAUSE OF MOLDY COMBS?

My brothers Jasper and Philip keep bees; they bought three hives of Italians last summer, and they had six swarms from them; they put them into the cellar after snow and frost had come. The comb got moldy. They had plenty of honey. They all died but two swarms. Do you think they died from the comb being moldy? My brother takes GLEANINGS. I like to read the little letters.

Hassan, Minn. GEORGE S. TUCKER.

A LITTLE GIRL WHOSE SISTERS HAVE EACH A STAND OF BEES, BUT NONE HERSELF.

I don't like honey very well, but I like to see the bees gather it. I have five sisters, and they have a stand of bees apiece, but I haven't any. Pa takes your journal. I like to get it and read it.

Glidden, Ia.

ZELLA EPPERT.

I think our papas ought to give each of the juveniles a swarm of bees by themselves. That would enkindle a new interest, and then what nice little letters we *would* have, all about bees! Mr. Hutchinson's little girls,

as he told you, have each a little swarm; and Blue Eyes, you know, had the biggest swarm in the apiary. When Huber gets big enough he shall have a swarm. Perhaps your papa is waiting till you get big enough too.

THREE HUNDRED STANDS OF BEES; A LITTLE GIRL WHO MAKES HERSELF USEFUL.

We have about 300 stands of bees. We haven't taken any honey since the last of July, as our honey-crop is poor this year. I helped pa with the bees, and liked it very well. He says he can't do without me in the honey-season. We have Plymouth Rock and Brahma chickens. Ma likes the Brahmas, and pa likes the Plymouth Rocks.

LALLA L. MARTIN, age 11.

Benton, Bossier Par., La., Sept. 24, 1885.

Well, Lalla, we have the Brahmas and Plymouth Rocks too, but I rather think I like the Brahmas better, so your mamma and I would agree on that point.

A PET FAWN.

Mr. Godkins, our neighbor, has a little deer. It is a year old. It wears a red ribbon with a bell on it. They caught it in the lumber-woods. He gave ten dollars for it, and he would not take fifty for it now. They feed it cookies, cake, pie, crackers, fried-cakes, bread and milk, and milk to drink. It is very tame; it comes to our house, over half a mile, and our dog scares it home. It is a grayish color.

JAMES W. RUSSELL, age 11.

Gilford, Mich.

A SWARM OF BEES FOUND UPON A WIRE FENCE; HOW THEY WERE HIVED AND WINTERED.

Two years ago my sister and I were gathering flowers, and we saw a swarm of bees on the wire fence. We went and told pa, and he got an old tea-box and put them in. They swarmed that summer, and pa put them into a chaff hive. We wintered them by turning a fifteen-bushel box down over the tea-box. They wintered well last winter. They have plenty of honey, and but few died. We had over 60 lbs. of surplus honey.

Radeliffe, Iowa. CLYDE WOODWARD, age 10.

BREAD AND HONEY, VERSUS SKATING.

I like to read the letters from the boys, so I thought I would write one. Papa keeps about 50 swarms of bees, and manufactures a chaff bee-hive, and sells a good many. He buys lots of things of you. We got about a ton of comb honey last year. My brother and I had one swarm which we owned together; but on account of the hard cold winter we lost them.

They are just finishing a roller skating-rink, about 60 rods from our house; but papa has bought his boys off by giving us a dollar apiece, so we are going to take the dollars and buy us some more bees; so when the rest are breaking their noses at the rink, we will eat bread and honey in the parlor.

CHARLIE B. HUMASON.

Vienna, Ohio.

Friend Charlie, your papa and I, I think, must be about of a mind. The effect of skating-rinks in our vicinity has been almost altogether bad, and I do think parents ought to try very hard to interest children in something at home—at least in places where they will not meet and be on a footing with the lowest and most depraved minds.

AN ESSAY ON BEES.

Bees are very industrious little insects. They gather honey every sunshiny day in the summer, and on cloudy days they make wax. They gather honey from clover-blossoms, and almost every kind of flowers. Bees will not sting if you do not molest them. Their color is brown and yellow. They are a little larger than the common house-fly. They kill all the drones when winter comes. I live in the western part of Iowa. Here the bees get honey from wild flowers, and I think from dogwood flowers. I should think bees would like columbine blossoms.

MAY DREW.

Glidden, Ia.

Your essay is very good, friend May, but I am afraid it is not all of it altogether true. Bees do make wax on cloudy days, but I am not sure that they make it then more than they do on sunny days; and I am afraid it is not always true, that bees do not sting unless you molest them. It is a pretty good letter, though, for all that.

A JUVENILE SUPPLY-DEALER.

Mr. Daniel Howard came to pa's house, and stayed three or four months, and gave me one of your catalogues. I am a small boy; and as all boys like to have some pocket change, I spoke of sending to you for a few articles and selling them at a small profit, and, by so doing, turn my little mite over to advantage. My first attempt was rather discouraging; but your kindness reassured me.

My father is a planter on the Ouachita River. He owns 600 acres on the river, of as good land as is in the State. He owns a steam-gin and grist-mill. His steam-power is sufficient for a saw, and his uncultivated lands are covered with splendid timber. It is as healthy as any place in the South. He has three nice settlements on his land, and pa wishes to go north. If you see any one who wishes a cheap bargain in a healthy neighborhood, good schools, nice people, recommend them to pa. He will sell at very reasonable figures.

WILLIE RUSSELL.

Donaldson, Hot Spring Co., Ark., Sept. 14, 1885.

SOME KIND WORDS, AND FACTS OF GENERAL INTEREST.

My papa takes GLEANINGS, and likes it so well that when his six months is up he will take it all the time. We started in with six colonies, and this spring one was alive. We got two nice large swarms, and they have done well. We got 32 lbs. of nice white comb honey. We have 12 spider plants, to give the bees a trial, and they won't touch it. What is the reason? We can just see the little drops of nectar in each flower. Mr. Root, do you give smokers yet? If you do, please send my papa one. He has quit chewing and smoking. If he chews or smokes we will send you money for it. We like the way you talk in the A B C introduction. Papa says he thinks you are a Christian. We like that kind of God-fearing people. Brother and I both belong to the church. I will close, for fear you toss this into the waste-basket.

CLARENCE and HARRY BOONE, ages 11 and 9.

Shelbyville, Ills.

May God bless you, Clarence and Harry! and most gladly do we send your papa a smoker. What papa could break his pledge when two of his boys, aged nine and eleven, stand as vouchers for the faithful performance of his part of the contract?—The bees neglect your spider plants because they are

getting plenty of honey somewhere else. Am I not right about it, boys?

SOME KIND WORDS FROM A JUVENILE.

We all look for your paper, which comes regularly. Papa says he wonders how you do it. We are all sorry you lost your horse. We were pleased with your article about paying a fair price for what you buy. Pa read it all out for us, for people often call him foolish because he won't beat a man down when he asks a fair price for what he sells. I help papa with his bees. We lost none last winter. March, 1884, we began with four boxes. Now we have 15 hives. Papa is an engineer. He makes his own hives. We want him to succeed with his bees. He is not strong, and has bad health. We wish we could taste some of those apples, strawberries, and raspberries you write about. We can not grow any of them here. Papa planted lots of trees. None of us use tobacco, except my eldest brother; he thinks he looks like a man.

FREDERICK HAILES, age 12.

Hondo City, Texas, Sept., 1885.

Why, Frederick, is it indeed true that you can not raise apples, strawberries, and raspberries, in Texas? Are you not mistaken about this? It seems to me I could make them grow wherever it is not too cold or too hot.

KIND WORDS FROM A LITTLE GIRL WHO DOES NOT FEEL THAT SHE IS A STRANGER.

I know I am a little stranger to you, but I don't feel as if you were one to me, because I have seen so many of your kind replies to little letters in GLEANINGS that it made me feel as if I wanted to hear from you too. My mamma says she thinks that you are a man with a great deal of patience to answer all the little letters from children. I don't know of any thing that I could tell you about bees that you don't already know, for I often ask my papa if he doesn't think that you know every thing about bees. My papa doesn't use tobacco in any form. There was a very serious case happened to a man who lived in our neighborhood who did use tobacco. He was going from the store, and a hard breeze came just as he was going through the gate, which slammed and drove the pipe-stem down his throat, and he nearly died before they could get him home, but I am glad to say that he is better. My papa has been keeping bees three years; he began with one hive of black bees in a box hive and one nucleus that he got from you. He now has nearly 50 hives of bees. I have a little book called "First Steps for Little Feet," and I have read it through now, and I think that it is just elegant.

Church Creek, Md. ELIZA R. BUSICK, age 8.

Thank you, Eliza, for your kind little letter. You need not be a stranger any longer, for I always feel at least some acquainted with every one who writes for GLEANINGS. A great many of the children are calling for the book you speak of—"First Steps for Little Feet," and I have just decided to buy a whole hundred dollar's worth at one time, so my little friends can all be supplied. The best thing about the little book is, that it teaches even the little feet to step toward heaven. Your sad story may not teach very much of a lesson against tobacco, but it does teach people to beware of going about with something sticking out of their mouth.

TOBACCO COLUMN.

WHAT A FRIEND CAN DO.

SINCE I have quit smoking myself, I have been trying to induce others to do so; and with your help I have succeeded in getting two, one of whom is Mr. Yandy, who has already received a smoker from you; the other is Mr. W. A. Smith. He wants a smoker also, and promises that if ever he uses tobacco again he will send you the price of the smoker. I can vouch for him myself, as he is a perfect gentleman.

Stanton, Ala.

C. W. PLANT.

You have struck the right way to strengthen yourself against tobacco — go to doing missionary work among your friends. Why, it fairly makes my heart bound to think of the reformed tobacco-users working among their own friends, in the field where God has placed them, to get others to go and do likewise. Keep on in the good work, and God will help me to furnish all the smokers that may be needed to carry it on. Perhaps it may be well to add, that it will be well to keep a sort of brotherly watch over all these new converts, and see that they do not backslide. Let all the work be truthful, honest, and fair, or we can not, of course, expect God to bless us.

ONE WHO HAS BEEN A SLAVE FOR 22 YEARS, AND HOW HE GOT FREE.

I notice your offer to send any one who quits tobacco, a smoker. I used tobacco for 22 years, and was a regular slave to the use of the weed to such an extent it nearly prostrated my nervous system. On the first day of January, 1884, I resolved to quit for that day. That night I resolved to quit a week; at the end of a week I concluded to quit for all time. It is now nearly 20 months since I have used tobacco in any form. I am very much improved in general health; my pocket-book is much plumper, etc. I have never had any bees until this summer, and consequently had no use for a smoker. Should you send me one now, I will pledge you my word of honor, that should I ever begin the habit again, I will pay you in full the price of the same.

Carroll, Ind.

R. T. BARBER.

ONE WHO HAS USED TOBACCO 30 YEARS.

I have been using tobacco for thirty years, but have decided not to use it again. I have not used any for two years, and have no desire for it. I notice in GLEANINGS you give a smoker to those who quit. If you think me worthy of a smoker, send it; and if I commence to use it again I will send you one dollar to pay for the smoker.

Colfax, N. C.

JAMES A. GATES.

GOOD BAPTISTS CAN NOT USE TOBACCO.

Your card received, and contents noted. Upon your explanation, I can not claim the smoker, as your offer was not my motive. The reason I quit was, I am a Baptist; and good Baptists can not use tobacco.

O. P. STARK, M. D.

Valley Spring, Texas.

Why, God bless you, friend S., for putting it in that way. To be sure, it is not right for a Baptist to use tobacco; and if it were not for treading on somebody's toes, I should like to say that it does not seem to me as if a Methodist, or an Episcopalian, or a Disciple, or a Congregationalist, or any of the rest of them, can consistently use tobacco.

If any of these good brothers think I am carrying it too far, I would ask them to read the Scripture texts in our little book, entitled "A Dose of Truth." And, by the way, I will send this book free to any Christian of any denomination, who has been deliberating in his own mind whether he should or should not use tobacco.

I have given up the use of tobacco, and would like you to send me a smoker. I don't want to be paid for doing right, but it will help me to keep my pledge by having a smoker to pay for the first time I break said pledge.

REESE POWELL.

Mineral Point, Wis.

Why, Reese, is this you among the tobacco-converts? We did not know before that you used tobacco at all; but we are very glad to know that you have given it up. Our book-keepers have mentioned your name to me from time to time, and I have always told them that I was pretty sure you meant to be a good boy, and to do what is right. Since you have given up tobacco, I can feel still more confidence in putting in a plea for you whenever it shall be necessary.

IT SAVED ME DOLLARS.

Please receive my thanks for the good deed you did for me when you sent me the smoker, to stop the use of tobacco. It has saved me dollars, and I don't want smoking going on around me at all now. I will love you as long as I live to love anybody.

Sun Hill, Washington Co., Ga.

A. JOINER.

Why, friend J., you almost startle me. Is it really possible, that I have been gaining friends, and doing it, too, when I was not aware of it? Here again is an illustration of that little text, "Lord, when saw we thee a hungered, and fed thee? or thirsty, and gave thee drink?" etc. Remember, dear friend J., that I am only human; and sometimes I fear my friends think me most *sadly* human. You will probably be tried with me, sooner or later. Now, then, won't you just lay up a good store of charity while you feel like it, to be used when that time comes? And one more thing: If I did you a good service, will you not pass it right on to the next man, and get him to stop using tobacco in the way I induced you to stop? Whenever smokers are needed for the work, let me know, and I will furnish them — providing, of course, the one who receives the smoker gives the usual promise, and is willing that his name should be published.

TWO LADIES WHO HAVE GIVEN UP TOBACCO.

As one of my lady friends has received a very pretty as well as useful present for giving up tobacco, I thought I was entitled to one for the same purpose. I quit using tobacco two years ago, and I never expect to renew the filthy habit. Having used it for many years I found it to be a very unnecessary habit.

SALLIE DAVIDSON.

Poca, West Virginia.

About two months ago I quit the use of tobacco, which I have used 12 years. Most of the time I chewed and smoked. I shall never use it any more. If you send me a smoker I will call it one more favor. In case I should ever use it again, I will send you pay for it.

J. O. MUNSON.

Perrville, N. Y.

OUR HOMES.

Charity thinketh no evil; hopeth all things; endureth all things.—1. COR. 13.

ARRIVING at my destination I climbed down from the locomotive (see page 708), and found I had over two hours to wait for the New-York train. I had had my dinner, as explained, and there was nothing to do; that is, I had no work planned for these two hours. Then came the question, What could I find to do that would be most profitable to myself and most profitable for you, dear readers? for I consider myself in one sense as your servant: for it was with the money that you have so freely furnished me that I had started on this errand. How could I benefit you most? The answer came, By educating myself in every possible way to minister to your wants and wishes. A saloon near at hand was doing a lively business, and was noisy with traffic; but I did not feel called there. In another direction was a wrench-factory, where busy wheels could be seen through the open windows, and I caught a glimpse of human beings also at work. I knew they made very nice goods there, for an adjustable wrench of their make is now on our 25-cent counter. Notwithstanding my experience with the engineer, mentioned in *Our Neighbors*, the old feeling of diffidence came up, and I didn't quite know whether they would want to be bothered with me or not, and I was thinking of going in one of the back doors around near the engine, and walking around without telling anybody who I was. Pretty soon I felt ashamed of myself, however, and mustered up courage enough to march right into the office. I handed my card to the book-keeper, telling him that I had two hours to wait, and that I should like to go over their neat-looking factory. Now it is an honest truth, dear friends, that I did not think of any further courtesy being shown to me, than that he would stop long enough to give me the asked-for permission. What did he do? Why, he opened the door and told me to come inside behind the railing. Then he told the partners who were present who I was, and they all rose up and shook me warmly by the hand, and expressed much surprise and pleasure to find that A. I. Root had really got away from home long enough to pay them a visit. One of the firm not only showed me all over the factory, and explained every thing to me in the kindest way, but he took me all over their little town, and showed me everything that I expressed an interest in. Thus the time passed very pleasantly until the train was nearly due.

While thinking of my want of charity for my fellow-men in that little transaction, I am reminded that quite a number of visitors have come to see us, and perhaps gone over our factory and grounds, and I did not know, until they were gone, that it was some friend with whom I had had deal, and whom I should have been very glad to meet. Like myself, they hesitated about bothering me, after I have said so much about being "exceedingly busy," "overworked," etc. Now

I will tell you how I feel about it. I am really glad to have visitors express a wish to see me; in fact, I would much rather that they would all come up into the office, and tell me who they are, and what they would like. Of course, it is oftentimes the case that some one of our clerks can wait on them better than I can. But I like to have them come up into the office, because then when I see them around I know who they are, and they know who I am. Why, I felt ever so much happier to be around with one of the proprietors, than if I had gone in the back way, not knowing whether I was wanted around there or not. Getting permission from the office is right and proper, when you go into any establishment; and if you want to look over an orchard, garden, or farm, *by all means* get permission to do so from the proprietor. It is well to be modest and humble, and perhaps a little backward about intruding; but one may carry this too far, and I am sure my tendency is almost always that way. I am apt to be lacking in that part of our text about hopefulness. A genuine Christian is not often an intruder, and he ought to have hopefulness enough to believe that people will be glad to see him, when he is away from home.

Mr. Holmes told me to get a seat in a palace car at once, and that the extra expense would be \$3.00 to New York. The conductor charged me \$3.50. Forgetting my lesson, I straightway made up my mind that he was one of that kind of conductors that we sometimes read about, who overcharge and put the remainder in their own pockets. He looked like a nice man, but this only set me to moralizing how little we can tell about a man by his looks. I thought I would not argue the case for a paltry half-dollar; but it began to sour me toward my fellow-men. Toward night he came and sat down by me, with some change in his hand. After a few pleasant remarks about the weather, etc., he extended the change, saying, "I owe you an apology, friend, for having taken a half-dollar too much from you, because I looked at the wrong column of figures."

Then I felt ashamed of myself again. "Thinketh no evil." Did that fit me? Not very well; and yet I make Christianity my theme. I shook off my uncharitable feelings, as it were, and asked him some questions about the way they manage to avoid mistakes, etc. He surprised me by very kindly and intelligently explaining the whole matter to me.

"Why, my dear sir, we *ought* to be correct and straight every time; and if we are not, we soon get *straightened*, I tell you. See here—I have punched the figures out of the check I gave you, representing the money received. This check goes to headquarters, with the holes all punched as you see, and there is no way in the world I can cover up this mistake. I have got to own it up, and make an explanation. See—I have made a ring around the place where I punched by mistake, to indicate at headquarters the blunder I made, and I feel a great deal more ashamed of it than I can tell you."

Now, this information has been worth a good deal to me. I didn't understand before why this system of checks and tickets, with punches for perforating them, was so much in use everywhere. It is for the purpose of making dishonesty almost impossible, providing the man who travels is intelligent enough to keep posted and understand it all. To make mistakes, whether intentional or unintentional, is almost impossible; that is, if the traveling public do their duty. And here I was *ignorant* and *uncharitable*. You see, I was learning lessons. We sometimes think the world is slow to receive lessons; but we generally think that we ourselves are bright and smart. In some respects I have a very good opinion indeed of myself. With these experiences that I have told you of, I ought to have had plenty of charity. Well, I guess I ought, but I didn't have, after all.

The first place I stopped at in the great city was at the office of the *American Grocer*, the publisher being brother of our shorthand writer who is taking down these notes. It was the same way. I felt diffident about intruding on his time, but I felt ashamed almost as soon as I met him. It was the same when I visited the great establishment of Thurber, Whyland & Co. I will tell you something about that visit in another place. After that I visited the large establishment where I buy the greater part of our counter goods. One of the clerks was somewhat acquainted by correspondence, because he made it his business to take charge of all our orders. Well, what kind of opinion do you suppose I had of him, without having ever seen him? To get at the truth which I want to inculcate to-day, I suppose I shall have to own up a good deal. Some way I had got it into my mind that most of the clerks in our great cities are of a drinking, swearing, theater-going class; that most of them would laugh at me, and call me a fanatic or religious enthusiast. Well, my reception by the clerks of this great establishment was a good deal like the rest I have been telling you about. They were quite overjoyed to see the man in New York who had a plain notice on one corner of his catalogue, saying that he gives away cards against profanity, to anybody who would take them. This brought out the fact that my friend was a Sunday-school worker — one who loved God, and hungered and thirsted after righteousness. You know we sell quite a number of books. Well, this establishment had a book department; that is, they sold a few select books. When they asked me to make a purchase of some books, and I ordered only a hundred Pilgrim's Progress, and no others, the clerks seemed a little surprised when I replied, "Boys, we sell only a limited number of books, and I have decided that these must be of such a character that I can carry them to the prisoners in our county jail to read, with a clear conscience."

Now, I did not think by this little speech that I was going to hurt anybody's feelings; but the clerk who made it a business to purchase their books made a start, and I could tell by his face and voice that he was hurt.

"Why, Mr. Root," said he, "are there any

books among our collections here that are in the least immoral in their tendencies?"

I assured him that I did not quite mean that; but the talk I had with him on the matter made me feel ashamed of myself again; and when these two young men, a little while later, introduced me to one of the partners, while their faces seemed to show they did it with considerable pride, I felt ashamed of myself again. One of them made a remark something like this:

"Mr. B., this is Mr. A. I. Root, who advertises printed cards against profanity, to give away; and at home where he lives he goes into the jail every Sunday and talks to the boys and men he finds there," etc.

I had a very pleasant talk with the proprietor; and while I was making my purchases, a clerk came to tell me that they wanted to see me in the office before I went away. When I went in there to see what was wanted, one of the firm came to me with a little bit of paper in his hand, and with a smile on his face, and said about as follows: "Mr. Root, I have had one of our book-keepers run up the amount of your purchases since you commenced to trade with us in 1880. Here it is on this bit of paper. We have sold you, in a little less than five years, \$4392.24. Now, that is a pretty fair amount to sell to one man in that length of time; but that is not the point just now, although we thank you for the trade you have given us. What I wanted to say for your encouragement is this: That, during these five years, we have never had to ask you for a cent of money, or hardly to send you a statement. Every bill has been paid promptly, within about ten days of its date."

"But," said I, "you gave a discount for prompt cash, and who would not pay under such circumstances?"

He replied, "Yes, I know we gave a discount; but I tell you, Mr. Root, the men who pay as promptly as you do, are not so plentiful but that when we find such a customer we want to keep him. Now, while I thank you, I want to say this: We know you buy largely in certain lines of goods; and we have learned by experience that we can safely give you close figures. We take no risk in getting our pay. Whenever you are in need of any article, whether we keep it or not, we will take pleasure in hunting it up for you, and in giving you prices that we could not give people whom we have found to be uncertain. Why, Mr. Root, you have no idea of how we are troubled and perplexed and bothered by men who make promises they do not keep or can not keep."

Now, dear friends, do not think I have told you all this because I want to boast of my good name in financial circles, but because I want to let you have the benefit of the moral. Has any one any adequate idea of the value of a good name? and are we working as we might work, even the best of us, to keep this good name free from blemish? It was another illustration to me of my want of charity. I didn't know that these people would be particularly glad to see me, and I had no conception of the estimation in which they held one who is

working for Christ. No matter what a man's religious belief is, he respects at once the one who loves God and his fellow-men.

You may think that my heart should have been enlarging a little by this time, and that these experiences should have taught me to have more faith in my fellow-men. Well, I believe I did begin to have a little better opinion of the world: but when I stepped into the great seed-house of Peter Henderson & Co., something of the same feeling came over me. In New York, space is so valuable that even large houses can not afford such roomy and airy offices as ours are here at the "Home of the Honey-Bees." In all these places I visited, every foot of space was economized, as if it were precious. A good deal of the ground in the city of New York, I have been told, is worth a thousand dollars a square foot. The offices were somewhat small where Mr. Henderson has his book-keepers, but somehow I felt a little backward about going in and interrupting so many busy people, especially when I didn't want any thing, so to speak. One of the clerks told me that Mr. Henderson was very busy, and he didn't know that Mr. H. would want to be interrupted. Perhaps I should remark, that it was Peter Henderson's son whom I found in the office that day. He was very busy with several people, and seemed greatly annoyed because some valuable paper was lost—so much so that I thought about going away without disturbing him. This wouldn't do, however, and so I mentioned my name, and told him where I came from. In an instant the troubled look on his face gave way to kindly looks. He gave up his paper, dismissed his friends, and with great kindness showed me from garret to cellar of that great seed-house. As I did not come to trade at this season of the year, I felt sorry to see him turn off other people whom I presumed must want something, so I did not stay very long at the store. I will tell you about my visit to the eight acres of greenhouses further along. I have spoken of the friends in New York who knew of me, and now I want to say a word in regard to utter strangers.

When I first came in sight of North River, at the terminus of our railroad, I was greatly astonished at the number of vessels, steamers, ferries, tugs, and many crafts that I could not tell the name of, and to see the way in which they crowded and rushed about in every direction, without smashing into each other. They seemed like mosquitoes dancing in the sunshine, only it was plainly evident there was no play about it. It was the busiest kind of business. Every craft was pushing for dear life toward some point ahead. Human beings were doing the same thing on the ferry-boat, although they did stand still until we neared the city wharf. Then out they poured into the streets. If I was astonished at the scene on the water, I was still more astonished at the streets of New York. Street-cars were chasing each other up one side of the street and down the other; carriages, carts, drays, milk-wagons, and all sorts of vehicles, were smashing ahead, crosswise, lengthwise, and turning and twisting. At almost every turn

it seemed to me that some vehicle narrowly escaped a smashup; but as these narrow escapes were before my eyes all the while, I was obliged to conclude that was the way they always did. Perhaps you have heard of the Irishman, who, when he first landed on our shores, was knocked down by a thunderbolt. When he got up, the first thing he asked was whether it did that way in America every day; for if it did, he thought he would get aboard the ship and go back straight home. This feeling kept coming up to me all the while, but I thought I would not go back home just yet. In addition to the annoyances and confusion on the pavements, the elevated railways overhead were continually scaring what little sense one had left, out of him. They, too, went down one side and up the other, chasing each other like children about the room. On some of the streets, four tracks ran side by side on these elevated street railways. I thought I was bright enough to take care of myself, and keep out of the way; but every little while somebody would kindly take me by the arm and pull me this way and then that way, to keep me out of danger. While I was looking out for one vehicle, some one from another direction would be right on to me. I expected somebody to swear at me, or call me a fool, because I kept continually getting into places of danger. But they didn't: on the contrary, I received the utmost kindness everywhere. The conductor took hold of me, and pulled me into the car, when a street-car running in the opposite direction was pretty close. Everybody answered questions so kindly and so fully that I could not but thank God while I thanked them. Policemen, conductors, clerks at the hotels, and everybody else, seemed to take it for granted that their business in life was to make it just as pleasant for such chaps as myself as they knew how to do, and it surprised me. Dear friends, I am really afraid it is true, that we in the country are much more given to surliness and short answers than our fellows in these great busy cities. I saw saloons, but I saw very little drunkenness. One thing that pleased me was to see the number of neat notices, even at the saloons, announcing "Ice-Cold Milk, only 3 cents a Glass." At some places, it read, "Orange-County Milk." Then the old uncharitable feeling suggested that it was not Orange-County milk, and that it was perhaps chalk and water that we read about in the papers. My friends, the milk was just as nice as that we get from our Jersey cow at home; and if one is short of means he can live very cheaply, even in this great busy booming city. I spent one evening there. I had forgotten to ask my friends where I could go in the evening, to a place fit for a Christian to go, and so I consulted the papers at the hotel. There were plenty of theaters, but, of course, that was not the place for me. So I thought I would study humanity on the streets. Well, I went miles on the street-cars and on foot, in different directions, and pushed my way into the crowds, but every thing was quiet and orderly. Why, it seemed to me like one great family circle. Children were playing

around under the light of the electric lamps, and on one street, where it was not very busy, a company of juveniles played "training-day," and a great crowd of ragged little ones, some no larger than Huber, followed a fife and drum. But no one was hurt, and none were uncivil. I did not even hear bad words. One woman was arrested for drunkenness; and a great gaping crowd elbowed and tiptoed for a little time to see what the excitement was. The sight of her besotted face, however, soon satisfied them, as it did myself, and she was taken away in comparative quietness.

On Wall Street I saw the statue of the father of our country, and with uncovered head I stepped on the stone where he stood when he took the oath of allegiance. A little distance on, in Printing-House Square, I saw the statue of Benjamin Franklin.

With friend Root, of the *American Grocer*, I visited the New-York Postoffice, and had a glimpse behind the scenes. It does seem too bad that the clerks must do their work in a dusty and smoky atmosphere, lighted, even in the day time, by electric lights.

I crossed the great bridge that spans the East River, where the tallest-masted vessels sail under its immense arch, with plenty of room. It took us twenty minutes of fast walking to go across. Friend Root told me that it took fourteen years to build this great wonder, if not *the* greatest wonder, of the world; and for fourteen years he watched its progress as he went to and from his place of business. You pay one cent to go across on foot, or two cents to ride across, drawn by an endless cable and a cable that is always in motion. I told him, that in spite of all that has been said about seeing God through his works in the country, it seemed to me that God's finger was more plainly seen in the mighty works of the city than even in the country. He said he had often felt the same thing and agreed with me.

Now, then, comes pretty nearly my last visit, and most important to me of all—or, at least, the errand which called me to New York—the visit to Peter Henderson's greenhouses and grounds. The book-keeper at the seed-store gave me a pretty card, with full directions for reaching the greenhouses. This is a pleasant and convenient arrangement; for it indicates to any one who wishes to call, that they make a regular business of receiving visitors. The greenhouses were all that Henderson's catalogue represents them to be, and they do actually cover 8 acres. But I was a good deal disappointed to find that they are all used for raising flowers—nothing for vegetables and garden stuffs, unless it be one greenhouse for testing seeds. The grounds outdoors were also all devoted to raising flowers—nothing to gardening, unless it be one small piece devoted to strawberries and raising strawberry-plants, and a little patch of celery. Market gardens are all round about Henderson's grounds; but Peter Henderson, who has for so many years been looked upon as the most progressive market gardener of the world, is a market gardener no longer. I suppose flowers are more profitable. By the way, the only opportunity I had of seeing Peter

Henderson himself was at the rooms of the New-York Horticultural Institute, where a sale of orchids was going on. The young Mr. Henderson informed me that over \$10,000 worth of orchids was to be sold at auction, and that his father was very much interested in them. The display was weird and wonderful, and the strange blossoms made one feel queer to look at them. How did all this come about? and what purpose has Dame Nature in sporting in such strange, fantastic ways? While I stood there, a dried-up plant in a little bit of flower-pot was sold for \$100; and had anybody offered it to me I would not have carried it home for it. But, of course, all this was entirely out of my line. The study of these wonderful plants is certainly an innocent pastime, and we have no right to find fault with those who invest so much money in them, so long as the money is honestly their own, and they can afford it. I suppose if my wife and daughter had been with me as I passed through these great greenhouses they would have gone into ecstasies over the great beds of roses. They were pretty, of course; but the sight of a bed of lettuce that I saw a little later was worth ever so much more to me. In fact, one glimpse that I caught out of the street-car window, of a celery-plantation, was worth to me the whole trip to New York. There were about 15 acres in the lot. The rows were as straight as a line. Each celery-plant was so exactly like every other one, that there was practically no difference anywhere in the field of 15 acres. Every plant possessed that wonderful vivid green that indicates rank growth, such as we want in celery; and if there was a shriveled or wilted leaf in the whole field, I did not see it, although it was during quite a drought. The land on which it grew was valued at so high a figure that the owner informed me that he paid a yearly tax of \$100 an acre. He was a blunt, rough specimen of an English gardener, but a very successful one, so Henderson's people told me. When I first approached him he did not seem inclined to give me much attention, or to appear very civil. After I had talked with him a little, however, he dropped his work and jumped up with the alacrity of a schoolboy. Six large greenhouses were in process of construction, and nearly finished, solely for growing vegetables. When he found that I was deeply interested, and pretty well posted, he was exceedingly talkative, and told me some of his troubles, because some of the men wouldn't push his work along as his own trained gardeners were in the habit of doing things. He used a string of oaths while he talked with me, but seemed good-natured and friendly, even if he did. Time was too valuable for me, and probably for him, to enter into any discussion; but I made up my mind, that before I left I would try at least some gentle reproof. I made some suggestions in regard to his greenhouses, which were new to him, and he thanked me profusely, and begged me to call again to see how they worked when they got them filled with plants. I told him that I was quite sure they would work.

"Mr. Root," said he, "we are not really sure of any thing; they may work, and they may not. There are only two things in this world that are sure."

"And what are the two things that are absolutely sure, Mr. H.?"

"Death and taxes. They are sure to come to all of us."

"I agree with you, my friend. These two things *are* sure; and in view of the fact that there is no escape from them, does it not become us to be careful, *very* careful, that we are always ready to meet either?"

He gave me a quick look, as if he were not quite sure whether I was one of the pious kind or not, but I went on:

"Every good business man ought always to be ready to meet the payment of his taxes when they become due, ought he not?"

"Yes, sir, to be sure, he ought."

"Now, my good friend, you have been very kind to me this afternoon, and I thank you. I may never meet you again, and may never have the opportunity of repaying your kindness; but do, I beseech you, be as ready to meet death when God shall call us home, as you have been in life to meet the payment of every just debt. I have been told that you are a successful and responsible man. Don't forget this other thing besides taxes that must be met."

His countenance softened, and he looked as though he was touched.

"I know, I know," said he, "that we are not often as ready to meet death as the other; and I know, too, Mr. Root, that we ought to be."

I did not say a word about his swearing, but he understood it all the same; and I was sure, by the warmth with which he took my hand, that he was not at all displeased. He had no feeling that I had been preaching to him. As I passed away I gave another longing look at the lettuce-beds. Some of his men were transplanting some of the bright-green little plants. I noticed, that as soon as they put them out, a board shutter instead of a sash was placed over them to keep off the sun. Other men were packing the beautiful heads of lettuce in barrels. One of Mr. Hudson's neighbors (for that was his name) told me there was a spell during the past season when New York was almost destitute of lettuce. The demand became so great that Mr. H. sold almost his whole crop as high as six cents a head, and with the proceeds he got at least a part of the money to build these six green-houses, all to be heated by one boiler. There before my eyes was the sight I had gone clear to New York to see — plants growing with wonderful vigor, and that, too, right at the time when we here in Ohio, and over a great part of the United States, are letting every thing go to weeds and decay; and besides that, preparations for having this wonderful growth go on uninterruptedly all winter long. You may say, "Oh, yes! that will do very well for such a market as New York." But, my friends, I am inclined to think those beautiful heads of lettuce that Mr. Hudson's men were pulling and putting into barrels would sell in your town or mine for at least five cents a head, at almost any

time during the coming winter, and perhaps even now before winter has come.

T. B. TERRY'S TOOL-HOUSE.

SOMETHING ABOUT TAKING CARE OF TOOLS IN GENERAL.

THE friends will remember, that in our issue for Sept. 15 I gave a promise of having an engraving made, and here it is. When I first looked about friend Terry's premises, this tool-house was about the first thing that attracted my eye. One of the doors was open, so that I could get a glimpse inside, and I caught the idea at once. I was the better prepared to appreciate it, because I had a similar tool-house constructed about a year ago, only mine was a lean-to shed, put up against the east side of our largest warehouse, and in ours the doors were omitted. The consequence was, the only way to get a tool in was to back in, and everybody found it so handy that pretty soon it was a half-day's work to get a tool out or in, and so the boys dropped back into the fashion of leaving all the vehicles scattered around where they were used last.

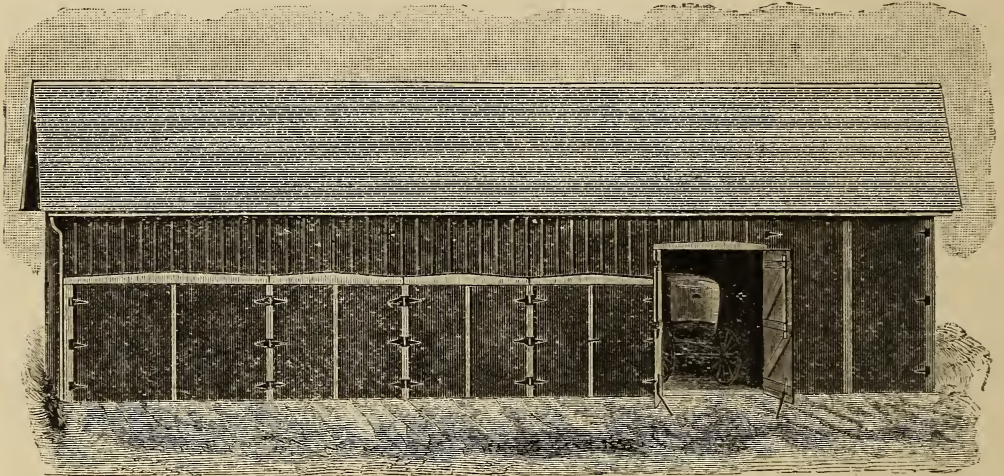
I remember one day of wanting some little implement for just a little while, and a neighbor's reaper was so placed that it must be pulled out in the mud, in order to get the tool. We didn't make the gravel bed inside of the house, that friend Terry speaks of in his account further along; and the consequence was, that when the ground became quite soft the heavy tools sank into the heavy clay soil, and after a while they froze fast. Besides, some of our more enterprising chickens decided that it was nicer, and more airy a place in which to roost, and therefore they took up their quarters right over some of our high-priced machinery. Do you wonder I got the blues sometimes, and almost wished I had never tried to be a farmer? Come to think of it, I do not know but I almost wished I had never tried to be anything or anybody. I thought of doors, but I remembered former experience in having doors slammed by the wind until they were repeatedly torn from their hinges. Somebody suggested sliding-doors; but I also remembered sundry times when I tried to move heavy sliding-doors when I was in a hurry, when they went so hard that it took so much of my small amount of strength that I had neither strength nor energy to do the work after I got my tools out into the field. Well, Mr. Terry agrees with me in regard to sliding-doors; at least, he said he did not like them. He did not say he did not like to have doors slamming; but the moment I saw that little iron hand-spike with the eye on top, and hinged to the door. I knew what it was for. The other end is sharpened to a blunt point, so as to stick into the ground; but lest it go into the ground too far when said ground is too soft, a washer is shrunk on, as he describes. Then when this little hand-spike is not to be used, instead of having it flacking about, it is lifted up and laid on a nice little strong hook, prepared for the purpose. The en-

graver has forgotten to show this little hook, or did not see it.

That buggy, of which you can see only the back end, is so neat and clean that it made one think of silk dresses and Sunday, almost instinctively. The buggy is large enough to hold friend Terry's whole family, or almost any whole family; but for all that, it is a one-horse buggy. I didn't have to wonder *who* the horse (if you will pardon the expression) was very long, for pretty soon we found Mr. Terry with two immense horses, either one of which would take that buggy anywhere, whether said family occupied it or not. The horses were hitched to what I should call an enormous great stout wagon. I looked at the wagon, and then I looked at the horses, and I concluded they were all in keeping with each other. Pretty soon it occurred to me that one of the queer things about friend Terry and his horses is, that he never feeds them any grain—simply hay, and nothing else (unless, as some of his neighbors say, it is not hay, it is just dried

window in the west end (right end in picture) below, east end up stairs, and one in the back side in the stairway, so it gives light both above and below. The floor above, of matched flooring, covers all but the two west bents; these are open clear up to the roof, as I will explain further on. The room up stairs is very handy for storing odds and ends, and our little folks think it just an A 1 skating-rink.

We used 12-foot posts, and made roof $\frac{1}{2}$ pitch. The door-fastenings, shown in picture, are very neat and cheap. I would call particular attention to the irons for keeping the doors open, which are shown on doors that are open. They are simple $\frac{3}{4}$ -iron rods, with an eye in the upper end, with a staple through it. At the lower end they are sharp, and a piece of iron one inch by two and $\frac{1}{4}$ thick is shrunk on to keep them from going into the ground too far. When not in use they are laid up in a little hook inside of door. They will save doors by keeping them from slamming, and you will never have to hunt for a stick when you are in a hurry. All doors are fastened on the inside but one, which has a latch and lock. The lower floor is of dirt, or



TOOL-HOUSE BELONGING TO T. B. TERRY, OF HUDSON, O.

grass). Mr. Terry does not dispute with them, for he has his own notions about how grass ought to be dried, and his notions seem to agree well with the notions of the horses, for they were as pretty a team of heavy work-horses as I think I have ever looked on. Well, perhaps I have said enough now, and so I will let Mr. Terry describe the tool-house himself. If I am not mistaken, there will be more tool-houses built like it, somewhere where GLEANINGS goes.

DESCRIPTION OF TOOL-HOUSE.

The entire front is composed of doors, so as to make it as easy as possible to get tools in and out. The building is boarded up and down with 12-inch barn-boards, and tightly battened. The doors are made of matched flooring. Each door-post is set on a large stone going down into the ground some 3 feet, and a one-inch iron dowel put in post and stone, so they can not get out of place. The rest of the building is underpinned tightly, except under the doors, of course. It has a neat cornice, water-conductors, and three coats of paint. There is a

gravel, raised just enough so water will never run in, but not enough so but that you can easily get any tool in or out. I like a dirt floor best, as it is so easy to get tools in or out. Six inches gentle rise, sloping back some ten feet, is ample. The first pair of doors to the left are nearly 12 feet wide, so they will take in a low-down twine-binder, horse-rake, etc.

The next four pairs of doors are nearly 8 feet each, and the west pair nearly 12 feet. Opposite the latter are two doors in the rear, so we can drive in a load of hay or grain temporarily, and drive right out the other side. Also, we can leave binder, manure-spreader, or mowing-machine in there over night, when in use (by putting wagons on barn floor), and not take time to put up in its place. For this reason no floor was put on over this end. The west doors are full height of building. The next pair are about half way between these and the others, as you will notice. They are for top carriages.

At the rear of this department is a cupboard for carriage harnesses, where they can be kept nice and clean. The building is 22x56, and will just hold

every tool, wagon, and carriage on the farm without crowding. The tools, etc., were measured, and the building built to fit—no waste room. It is intended to have it join a new bank barn on the west, when we are able to build the same, with a door through into horse-stable of barn, which will be on same level.

The cost of the building, all neatly finished, was \$400 in cash, besides what we could do ourselves, without interfering with farm work. To say that we enjoy it greatly, and think it is one of the best investments we ever made, is needless.

The contents of building below, beginning at west end, are—2 large wagons; 1 top carriage; 1 open buggy; 2 potato-diggers (new this year); 2 Acme harrows; 2 Oliver chilled plows; 1 subsoil plow, Minor; 1 Thomas harrow; 1 perfected pulverizer; 1 potato-planter; 4 one-horse cultivators and horse-hoes; 1 two-horse sulky cultivator; 1 seeder attachment; 1 Cahoon hand-seeder; 1 roller; 1 manure-spreader; 1 low-down Buckeye twine-binder; 1 Eureka mower, 6-foot cutter-bar; 1 one-horse dump hay-rake; 1 sled.

Up stairs are stored sleigh, 3-horse pole, side-boards, Victor potato-coverer, etc. In addition to the above is the usual supply of little tools, stored where they can be got at handily, and it is quite possible some large ones which I have overlooked.

Hudson, Ohio.

T. B. TERRY.

Well, I have something more from friend Terry yet; and as it concerns, indirectly at least, the tool-house we have been talking about, I think I will put it in right here. For a head to the letter, I think we will say:

LENDING TOOLS TO NEIGHBORS.

Friend Root:—It seems I do not always make myself fully understood. I did not intend to say, or have you think, that I had no neighbors who would use tools carefully, and return them promptly, and do the fair thing about paying for their use. I said I did not think it would answer to lend expensive tools. A single illustration will perhaps explain my meaning. Years ago I was fitting a piece of land for Hungarian grass. A farmer came to borrow my roller to roll in his Hungarian seed. He promised to have it back here by the time I got my ground ready. It did not come, for he let a careless man drive it (just as he would have done his own, if he had owned one, doubtless), who drove across a dead furrow with a large load of stone on, and smashed it all down. He got it fixed as soon as possible, but it was too late for me to use it on my crop. You see the point: My neighbor's ground was rolled, while mine had to go without. I owned the roller, and he got the use of it. He offered to pay me, but it cost him so much to repair it that I was ashamed to charge any thing. The loss to me was a good many dollars. It seemed as though this was loving my neighbor (particularly when he was worth ten times as much as I) better than myself, and I put my foot down then and there that I would not in the future make a business of lending expensive tools—or borrowing either. Any simple tool like a fork, or even a plow, I always gladly lend to any one in need; and if a neighbor should have the bad luck to break some expensive tool when the loss of its use would be a serious damage to him, I would lend him any thing, even if I had to go with it to help him out. But when men pretend to be farmers, and make a business of borrowing tools that every farmer ought to have, it does not hurt

my conscience any to tell them plainly that I can not afford to lend to them. Such men are the ones who are careless of tools, and slow to return them. A young farmer just starting for himself, and unable to buy, would stand a very good chance to get what he wanted of me, gratis, until he could go alone. Still, it makes trouble to lend to one and not to another. I should like to please all; but I must look to my own interests also, and good tools in good order and ready at a moment's notice are necessary to success on the farm.

There, friend Root, am I not about sound on the lending question? At any rate, these are about my views; but if you can show me wherein they are wrong I will try to change. T. B. TERRY.

Hudson, Ohio, Sept. 24, 1885.

Thank you, friend T., for your explanation, and forgive me if I seemed to criticize a little. If I did, I meant to include myself in the criticism: for after the conversation referred to was over, I had a sort of guilty feeling for the part I had taken in it; that is, we three all had been talking and telling stories in a way that seemed to reflect on our neighbors: and if it is hard to get along with neighbors sometimes, God only knows where we should be if it were not for these same neighbors. I think you are sound, friend T., on the lending question; but let us beware of falling into not only uncharitable talk but uncharitable feelings toward these same God-given neighbors. Shall we not?

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,

EDITOR AND PUBLISHER.

MEDINA, O.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, OCT. 15, 1885.

Blessed is the man that walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful.—PSALM 1:1.

REMEMBER, 5 per cent discount on all goods ordered now for next season's use.

HEDDON'S EXTRACTED HONEY.

The two kegs mentioned in a previous number came to hand in good order. Not a drop of honey had escaped to make things dauby. The quality of the honey is certainly superior. Our stenographer describes it exactly by saying that there is a "finish" to the flavor that we do not often find in ordinary brands.

MIXING ORDERS IN WITH "VISITING" LETTERS.

If you want your orders to be filled by first mail or first train, don't put them in the middle of a long letter. Our long letters are frequently laid aside until we can get time to go through them carefully, while every thing in the shape of an order is pushed ahead to the proper clerk the minute our eyes rest upon it. You need not put the orders in a separate piece of paper unless you choose, but please let them come first. If they are to be made conditional, mark them so, and say, "See particulars below,"

CONCORD GRAPEVINES, AND BASSWOOD AND TULIP TREES FOR FALL PLANTING.

Now is the time to put them out, and we have a better stock of better trees and vines than we ever had before. The grapevines were put out on our grounds just about a year ago, and have made a splendid growth during the past season, under the influence of underdraining, subsoiling, and good cultivation. Price 10 cts. each; 85 cts. for 10, or \$6.50 per 100. If sent by mail, 5 cts. each extra for postage and packing. The postage is a little more than former years, as the vines are larger and better rooted. For prices of basswood and tulip trees, see our price list.

FOUNDATION WITH HIGH WALLS ? OR SHALLOW WALLS; WHICH IS PREFERABLE?

OUR friends are probably aware, that for several years samples of comb foundation have been sent out having walls so deep that it is really a pretty near approach to honey-comb itself. The queen might lay eggs in this foundation, or the bees might store a little honey in it, without any working-over at all. Of course, the walls are much thicker than the walls of natural comb, or the walls built on foundation having only a shallow wall when given to the bees. Now the point is, do the bees make these walls thinner, and do they take hold of this high-wall foundation quicker than that made with shallow walls? To test the matter we have recently placed pieces of both kinds of foundation side by side, attached to the comb-guide of an empty frame, and placed the same in the center of strong colonies. The result is this: The bees take hold of one kind of foundation just as quick as the other, and they draw it out into comb at the same rate of speed—we can not see a bit of difference. But when the finished comb is held up to the light, there is a very remarkable difference. The deep-cell heavy foundation has the bottom just about as it was made by the foundation-rolls. The deep walls are also about the same, while the other is thinned down in both wall and base of cell, so near to that of natural comb that it is difficult to distinguish the difference. The friends may be perhaps aware, that the foundation we have sent out has always been with rather shallow walls—walls not too deep for the bee to grasp with his mandibles, and fashion over to suit his notion. With our foundation, we give on an average about 7 sq. ft. to the pound, for brood-combs. The deep heavy-wall foundation, such as several manufacturers send out, give us from 4 to 6 feet to the pound. We have seen some specimens so heavy that 3½ sq. ft. would make a pound. Now, then, we can easily figure how much more it costs; and I think if you will make the experiment as we have done, you will find your wax is pretty much all right where the mill put it, after the bees have drawn it out into comb. The deep-wall foundation is handsome to look at, I am well aware; but I can not discover that it has any other merit, and it is terribly expensive, if we have made no mistake in our experiments. Of course, the above refers to brood-combs only. If you use heavy foundation for surplus boxes, you will have the "fish-bone" that has been complained of, without any doubt.

For Christmas, 50 SCROLL-SAW DESIGNS for working brackets, easels, etc., 10c. J. L. HYDE, POMFRET LANDING, CONN. 191fdb

FOR SALE,

A SECOND-HAND TWO-HORSE-POWER EUREKA ENGINE AND BOILER.

The above engine has been in use about five years; but Mr. A. F. Stauffer, of Sterling, Ill., of whom we purchased it, writes in regard to it as follows:

I guarantee the engine to be in good working shape, as good as it ever was. I had boiler examined last spring by a steam-fitter, and he pronounced it as good as new. I always used soft water. I am furnishing my shop with new machinery and am anxious to sell or exchange it. I have to get more machinery, and my two-horse power is too light. Sterling, Ill. A. F. STAUFFER.

We will sell the above engine, to be taken at Sterling, Ill., for an even \$100, and we will put our guarantee on top of that of friend S. We obtained it of him in exchange for some new machinery, he, of course, putting in a larger engine and boiler.

Also one second-hand **Pony Planer** for sale. This planer is one that we used in our factory for planing all our basswood plank, heavy lumber, etc., and was set aside only because of the increase of our business. The plane is 24 inches in width, and such a machine would cost new \$140 net cash. It is all in good trim, and ready for work, with an extra pair of new knives, and it will be sold for just half price, or \$70.00.

A. I. ROOT, Medina, Ohio.

*•• FOR SALE. •••

I WILL SELL

Full Swarms of Pure Italian Bees

DURING THIS MONTH FOR

Four Dollars Each.

They are in 10-frame Simplicity hives, and in good winter shape. Ready to ship now. Send money by registered letter. Address

M. R. NICHOLS,

191fdb Weaver's Corners, Huron Co., O.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3b1fd

HONEY AND BEESWAX.

We are now in the market, and will be during the entire season, for all honey offered us, in any quantity, shape, or condition, just so it is pure. We will sell on commission, charging 5 per cent; or if a sample is sent us, we will make the best cash offer the general market will afford. We will handle beeswax the same way, and can furnish bee-men in quantities, crude or refined, at lowest market prices. Our junior member in this department, Mr. Jerome Twichell, has full charge, which insures prompt and careful attention in all its details.

Sample of comb honey must be a full case, representing a fair average of the lot. On such sample we will make prompt returns, whether we buy or not.

CLEMONS, CLOON & CO.,

15-2db Kansas City, Mo.

TRY THE BELLINZONA ITALIANS,



151fdb

And see for yourself that they are the best. Warranted Queens, bred from mothers imported direct from the mountains of Italy, \$1.00 each; 6 for \$5.00. Special discount on large orders. Satisfaction guaranteed. Send for circular. Orders filled promptly.

CHAS. D. DUVAL,

SPENCERVILLE, MONT. CO., MD.

Wanted. To buy a small farm and apiary. Give terms of sale, honey resources, distance to school and church. California given preference. E. S. ARWINE, Patterson, Waller Co., Texas. 20d

SHIPPING-CANS For HONEY



“Iron Jacket” Honey-Cans.

I presume the friends are aware that ordinary tin cans are not very safe for shipping full of honey, unless boxed or crated. The cans above are ready to be shipped anywhere.

PRICES:

1 Gallon,	25c each
2 “	38c “
3 “	47c “
5 “	58c “
10 “	94c “

On an order for 10 or more, we will make a discount of 5 per cent, and for 100 or more, 10 per cent, and the order may be made up of different sizes.

By figuring 11 lbs. of honey to the gallon, you can easily see how many pounds each can holds. They are made from tin plates. A sheet-iron casing, with wood bottom, protects them from bruising. The iron jacket is stronger than wood, and far more serviceable. They neither shrink nor swell, and do not split nor fall apart. Every can is tested by steam, and guaranteed to be tight.

A. I. ROOT, Medina, O.

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Single copies, cloth bound, postpaid by mail, \$1.25; same as above, only paper covers, \$1.00. From the above prices there can be no deviation to any one; but each purchaser, after he has paid full retail price for one book, may order the cloth-bound to any of his friends on payment of \$1.00, or the paper cover at 75 cents each. This discount we give to pay you for showing the book, explaining its worth, etc. If you order them by express or freight, you may take off 15 cts. from each cloth-bound book, or 12 cts. for each one in paper covers. Of course, it will not pay to do this unless you order a number at a time, or order them with other goods. To those who advertise A B C books in their price lists and circulars, a discount of 40 per cent from retail prices will be made, and this discount will be given to all booksellers and newsdealers. To any one who purchases 100 at one time, a still further discount will be made, to be given on application, and the 100 may be made up of part cloth and part paper, if desired. Purchasers are requested not to sell single books at less than the regular retail prices, although they may sell two or more at any price they think proper; or the A B C may be clubbed with any other book or periodical, at such prices as the agent thinks proper.

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Reduction in Prices of the PASTEBOARD BOXES FOR ONE-POUND SECTIONS OF COMB HONEY.



THIS box has a bit of “red tape” attached to it to carry it by. It makes a safe package for a single section of honey for the consumer to carry, or it can be packed in a trunk, if he wants. It can be opened in an instant. The price of the box is 2 cts. each, set up; in the flat, 15 cts. for 10; package of 25, 30 cts.; \$1.00 per 100; or \$9.00 per 1000; 10,000, \$80. If wanted by mail, add \$1.00 per hundred for postage. Colored lithograph labels for putting on the sides, two kinds, one for each side, \$3.00 per 1000. A package of 25, labeled on both sides, as above, 50 cts. By mail, 30 cts. more. They can be sold, labeled on one side or both sides, of course. We have only one size in stock, for Simplicity sections. Sample by mail, with a label on each side, 5 cts. If you want them shipped in the flat, labels already pasted on, the price will be ten cents per hundred for putting them on.

Your name and address, and the kind of honey, may be printed on these labels, the same as other labels. The charge for so doing will be 30 cts. per per 100; 250, 50 cts.; 500, 75 cts.; 1000, \$1.00.

A. I. ROOT, Medina, Ohio.

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A COMPLETE TREATISE Upon the Food Carp and its Culture.

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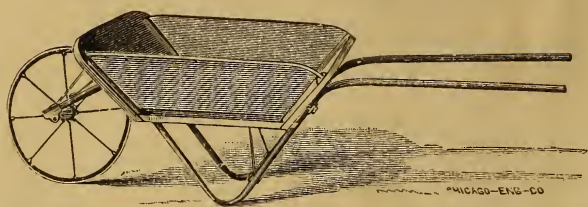
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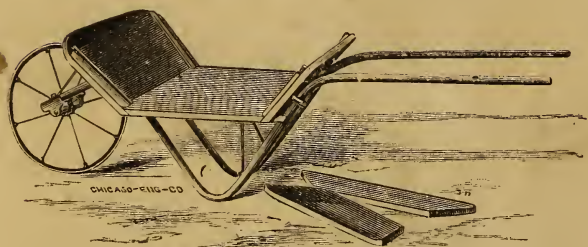
GLEANINGS IN BEE CULTURE.

THE BEE-KEEPER'S WHEELBARROW

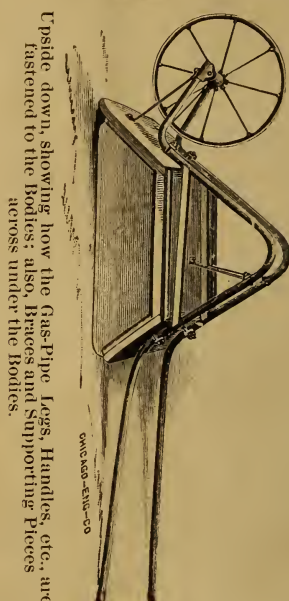
WITH WOOD BODIES, IRON WHEELS,
GAS-PIPE LEGS AND HANDLES.



THE BEE-KEEPER'S WHEELBARROW WITH SIDE-BOARDS IN PLACE.



THE BEE-KEEPER'S WHEELBARROW WITH SIDE-BOARDS OUT.



Upside down, showing how the Gas-Pipe Legs, Handles, etc., are fastened to the bodies; also, braces and supporting pieces across under the bodies.

ALMOST every bee-keeper needs a wheelbarrow of some kind. Even though a wagon-road be so arranged as to be close up to the hives, still there will be more or less work to be done by laborious carrying back and forth, unless it be moved with a wheelbarrow. As the "bee-keeper's wheelbarrow" is liable to be left out in the weather, it is quite desirable that it should be made so as to stand both the sun and the rain. The one we illustrate is well calculated for this purpose. The bottom-board is flat, so as to hold a hive or hives safely and securely. It is rather broad; and with the back and front boards, quite a load may be carried, even of bulky articles. It facilitates the moving of long stuff as well as lumber or scantling. These side-boards can be quickly removed.

The body is a combination of the railroad and garden barrow, is adapted to a larger variety of uses than any other make. Used with side-boards it has a large capacity for holding dirt, rubbish, manure, apples, potatoes, coal, garden truck, etc. With side-boards out, the bottom of the body being flat, makes it handy for hauling boards, posts, tool-chests, boxes, cordwood, and a variety of things not requiring side-boards.

The bodies are made of straight, not "bent lumber;" can be easily repaired by any one in case of breakage, and are very strong, being made of 1-inch lumber, dressed, and having four strips across the bottom, to increase strength, and is very roomy.

The handles, legs, and part the wheel is attached to, are made of extra heavy gas-pipe, 1 1/4 in. outside, all in one continuous piece, making it very strong.

No joints for rain and sun to rack and rot. Is practically indestructible; no wear out, as is the case with the wood handles and legs, which soon rot and go to wreck.

The legs being curved where they strike the ground, will slide along if dropped while in motion, instead of catching in the ground and breaking or straining the barrow, as is the case with other makes.

The wheel is iron, 17 in. high, and has a broad tread, 1 1/2 inch, making it desirable on soft ground, as it will not sink in.

The entire barrow is well painted, and altogether makes the best wheelbarrow for general use. Will outwear a dozen cheap ones.

IS LIGHT TO HANDLE, WEIGHING ONLY 50 LBS.

In shipping, they are sent "knocked down;" the bodies nest, and the legs and braces tied together.

The regular retail price of these wheelbarrows is \$5.00 each. We have made arrangements for buying them in quantities, whereby we are enabled to ship to our bee-friends for \$4.00 each. They can be sent by express or freight. Printed directions accompany for putting them up. If sent with hives or other goods, the freight will be only a small item. We have one in constant use, and are much pleased with it.

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A. I. ROOT, - MEDINA, O.